

## 2000 AIAA Journal Index

### How to Use the Index

In the Subject Index, pages 2366–2374, each technical paper is listed under a maximum of three appropriate headings. Note the locating number in boldface type preceding each paper title, and use that number to find the paper in the Chronological Index. The Author Index, pages 2375–2377, lists all authors associated with a given technical paper. The locating numbers are identical to those in the Subject Index. The Chronological Index, pages 2378–2390, also lists all papers by their locating numbers. This listing contains titles, authors and their affiliations, and volume, issue number, and page where the paper appeared. It also gives the AIAA paper number, if any, on which the article was based, as well as the ISBN number if the paper was published in a bound collection of meetings papers. Comments, Replies, and Errata are listed directly beneath the paper to which they refer. If the paper to which they refer was published prior to 2000, that paper also will appear in both the Subject and Chronological Indexes. Authors of Comments also are listed in the Author Index. The Book Review Index, page 2390, lists the books reviewed during 2000, the author, publisher, and reviewer, and the volume, issue number, and page on which the review appeared.

### Subject Index

#### Aircraft Technology, Conventional, STOL/VTOL

##### Aerodynamics

- J00-031** Accurate Aerodynamic Sensitivity Analysis Using Adjoint Equations
- J00-298** Adaptive QUICK-Based Scheme to Approximate Convective Transport
- J00-053** Aerodynamic Computations Using the Convective-Upstream Split-Pressure Scheme with Local Preconditioning
- J00-022** Aerodynamic Design Using Neural Networks
- J00-177** Analysis of Random Gust Response with Nonlinear Unsteady Aerodynamics
- J00-178** Approximate Added-Mass Method for Estimating Induced Power for Flapping Flight
- J00-129** Assessment and Modification of Two-Equation Turbulence Models
- J00-048** Channel Flow Instability in Presence of Weak Distributed Surface Suction
- J00-162** Collision of a Vortex-Jet with Stator Vanes
- J00-263** Convergence Acceleration of an Inverse Design Technique for Constructing Turbomachinery Cascades
- J00-038** Correlation of Helicopter Rotor Tip Vortex Measurements
- J00-292** Direct Circulation Measurement of a Tip Vortex
- J00-092** Drag Reduction with a Sliding Wall in Flow over a Circular Cylinder
- J00-270** Euler-Based Inverse Method for Turbomachine Blades, Part 2: Three-Dimensional Flows
- J00-132** Experimental Investigation of the Confluent Boundary Layer of a High-Lift System
- J00-299** Fast, Block Lower-Upper Symmetric Gauss-Seidel Scheme For Arbitrary Grids
- J00-095** Hypersonic Flow Control Using Upstream Focused Energy Deposition
- J00-127** Insensitivity of Unsteady Vortex Interactions to Reynolds Number
- J00-278** Intergrid-Boundary Definition Method for Overset Unstructured Grid Approach

- J00-005** Inverse Solution Uniqueness and Domain of Existence for Space-Marching Applications
- J00-029** Iterative Space-Marching Method for Compressible Sub-, Trans-, and Supersonic Flows
- J00-265** Marching Distance Functions for Smooth Control of Hyperbolic Grids
- J00-146** Measurements in the Tip Vortex Roll-Up Region of an Oscillating Wing
- J00-224** Model Attitude Determination in Wind Tunnel with a Luminescent Paint Data System
- J00-128** Modeling of Three-Dimensional Viscous Compressible Turbomachinery Flows Using Unstructured Hybrid Grids
- J00-198** Numerical Investigation into Multiple Vortex Structures Formed over Flat End-Cap Wings
- J00-125** Prediction of Hysteresis Associated with the Static Stall of an Airfoil
- J00-072** Review of Planar Multiple-Component Velocimetry in High-Speed Flows
- J00-023** Shaping of Delta-Wing Planform to Suppress Vortex Breakdown
- J00-050** Side Force on an Ogive Cylinder: Effects of Control Devices
- J00-264** Studies on Polygonal Slot Jets
- J00-024** Surface Shaping to Suppress Vortex Breakdown on Delta Wings
- J00-011** Turbulence Effect on Frequency Characteristics of Unsteady Motions in Wake of Wing
- J00-111** Turbulent Vortex Breakdown at High Reynolds Numbers
- J00-277** Viscous Flow Analysis Using a Parallel Unstructured Multigrid Solver

##### Aeroelasticity and Aeroservoelasticity

- J00-151** Analysis and Testing of Mach-Scaled Rotor with Trailing-Edge Flaps
  - J00-177** Analysis of Random Gust Response with Nonlinear Unsteady Aerodynamics
  - J00-090** Damping Effects in Nonlinear Panel Flutter
  - J00-203** Damping Perturbation Method for Flutter Solution: The g-Method
- 2366

- J00-204** Effects of Wall Admittance Changes on Aeroelastic Stability of Turbomachines
- J00-103** Enhanced Aeroelastic Analysis of Panels Under Transitory Hypersonic Flow Conditions
- J00-128** Modeling of Three-Dimensional Viscous Compressible Turbomachinery Flows Using Unstructured Hybrid Grids
- J00-206** Nonlinear Response of Airfoil Section with Control Surface Freeplay to Gust Loads

##### Configuration Design

- J00-257** Collaborative Optimization Using Response Surface Estimation
- J00-259** Nonlinear Behavior of Thick Composites with Uniform Fiber Waviness

##### Fuels and Fuel Systems

- J00-163** Parametric Study of Simplex Fuel Nozzle Internal Flow and Performance

##### Manufacturing

- J00-290** Nonlinear Finite Element Analysis of Machining and Sheet Metal Forming
- J00-231** Shape Design Sensitivity Analysis and Optimization of Elasto-Plasticity with Frictional Contact

##### Noise

- J00-046** Application of Lighthill's Equation to a Mach 1.92 Turbulent Jet
- J00-207** Computational Aeroacoustic Analysis of Slat Trailing-Edge Flow
- J00-208** Discrete Vortex Simulation on the Acoustic Nonlinearity of an Orifice
- J00-080** Eddy Convection in Coaxial Supersonic Jets
- J00-209** Effect of Plate Thickness on Impedance of Perforated Plates with Bias Flow
- J00-245** Effects of Pressure Gradients on Turbulent Boundary Layer Wave Number Frequency Spectra



## 2000 AIAA Journal Index

### How to Use the Index

In the Subject Index, pages 2366–2374, each technical paper is listed under a maximum of three appropriate headings. Note the locating number in boldface type preceding each paper title, and use that number to find the paper in the Chronological Index. The Author Index, pages 2375–2377, lists all authors associated with a given technical paper. The locating numbers are identical to those in the Subject Index. The Chronological Index, pages 2378–2390, also lists all papers by their locating numbers. This listing contains titles, authors and their affiliations, and volume, issue number, and page where the paper appeared. It also gives the AIAA paper number, if any, on which the article was based, as well as the ISBN number if the paper was published in a bound collection of meetings papers. Comments, Replies, and Errata are listed directly beneath the paper to which they refer. If the paper to which they refer was published prior to 2000, that paper also will appear in both the Subject and Chronological Indexes. Authors of Comments also are listed in the Author Index. The Book Review Index, page 2390, lists the books reviewed during 2000, the author, publisher, and reviewer, and the volume, issue number, and page on which the review appeared.

### Subject Index

#### Aircraft Technology, Conventional, STOL/VTOL

##### Aerodynamics

- J00-031** Accurate Aerodynamic Sensitivity Analysis Using Adjoint Equations
- J00-298** Adaptive QUICK-Based Scheme to Approximate Convective Transport
- J00-053** Aerodynamic Computations Using the Convective-Upstream Split-Pressure Scheme with Local Preconditioning
- J00-022** Aerodynamic Design Using Neural Networks
- J00-177** Analysis of Random Gust Response with Nonlinear Unsteady Aerodynamics
- J00-178** Approximate Added-Mass Method for Estimating Induced Power for Flapping Flight
- J00-129** Assessment and Modification of Two-Equation Turbulence Models
- J00-048** Channel Flow Instability in Presence of Weak Distributed Surface Suction
- J00-162** Collision of a Vortex-Jet with Stator Vanes
- J00-263** Convergence Acceleration of an Inverse Design Technique for Constructing Turbomachinery Cascades
- J00-038** Correlation of Helicopter Rotor Tip Vortex Measurements
- J00-292** Direct Circulation Measurement of a Tip Vortex
- J00-092** Drag Reduction with a Sliding Wall in Flow over a Circular Cylinder
- J00-270** Euler-Based Inverse Method for Turbomachine Blades, Part 2: Three-Dimensional Flows
- J00-132** Experimental Investigation of the Confluent Boundary Layer of a High-Lift System
- J00-299** Fast, Block Lower-Upper Symmetric Gauss-Seidel Scheme For Arbitrary Grids
- J00-095** Hypersonic Flow Control Using Upstream Focused Energy Deposition
- J00-127** Insensitivity of Unsteady Vortex Interactions to Reynolds Number
- J00-278** Intergrid-Boundary Definition Method for Overset Unstructured Grid Approach

- J00-005** Inverse Solution Uniqueness and Domain of Existence for Space-Marching Applications
- J00-029** Iterative Space-Marching Method for Compressible Sub-, Trans-, and Supersonic Flows
- J00-265** Marching Distance Functions for Smooth Control of Hyperbolic Grids
- J00-146** Measurements in the Tip Vortex Roll-Up Region of an Oscillating Wing
- J00-224** Model Attitude Determination in Wind Tunnel with a Luminescent Paint Data System
- J00-128** Modeling of Three-Dimensional Viscous Compressible Turbomachinery Flows Using Unstructured Hybrid Grids
- J00-198** Numerical Investigation into Multiple Vortex Structures Formed over Flat End-Cap Wings
- J00-125** Prediction of Hysteresis Associated with the Static Stall of an Airfoil
- J00-072** Review of Planar Multiple-Component Velocimetry in High-Speed Flows
- J00-023** Shaping of Delta-Wing Planform to Suppress Vortex Breakdown
- J00-050** Side Force on an Ogive Cylinder: Effects of Control Devices
- J00-264** Studies on Polygonal Slot Jets
- J00-024** Surface Shaping to Suppress Vortex Breakdown on Delta Wings
- J00-011** Turbulence Effect on Frequency Characteristics of Unsteady Motions in Wake of Wing
- J00-111** Turbulent Vortex Breakdown at High Reynolds Numbers
- J00-277** Viscous Flow Analysis Using a Parallel Unstructured Multigrid Solver

#### Aeroelasticity and Aeroservoelasticity

- J00-151** Analysis and Testing of Mach-Scaled Rotor with Trailing-Edge Flaps
- J00-177** Analysis of Random Gust Response with Nonlinear Unsteady Aerodynamics
- J00-090** Damping Effects in Nonlinear Panel Flutter
- J00-203** Damping Perturbation Method for Flutter Solution: The g-Method

- J00-204** Effects of Wall Admittance Changes on Aeroelastic Stability of Turbomachines
- J00-103** Enhanced Aeroelastic Analysis of Panels Under Transitory Hypersonic Flow Conditions
- J00-128** Modeling of Three-Dimensional Viscous Compressible Turbomachinery Flows Using Unstructured Hybrid Grids
- J00-206** Nonlinear Response of Airfoil Section with Control Surface Freeplay to Gust Loads

#### Configuration Design

- J00-257** Collaborative Optimization Using Response Surface Estimation
- J00-259** Nonlinear Behavior of Thick Composites with Uniform Fiber Waviness

#### Fuels and Fuel Systems

- J00-163** Parametric Study of Simplex Fuel Nozzle Internal Flow and Performance

#### Manufacturing

- J00-290** Nonlinear Finite Element Analysis of Machining and Sheet Metal Forming
- J00-231** Shape Design Sensitivity Analysis and Optimization of Elasto-Plasticity with Frictional Contact

#### Noise

- J00-046** Application of Lighthill's Equation to a Mach 1.92 Turbulent Jet
- J00-207** Computational Aeroacoustic Analysis of Slat Trailing-Edge Flow
- J00-208** Discrete Vortex Simulation on the Acoustic Nonlinearity of an Orifice
- J00-080** Eddy Convection in Coaxial Supersonic Jets
- J00-209** Effect of Plate Thickness on Impedance of Perforated Plates with Bias Flow
- J00-245** Effects of Pressure Gradients on Turbulent Boundary Layer Wave Number Frequency Spectra



**Propeller and Rotor Systems**

**J00-162** Collision of a Vortex-Jet with Stator Vanes

**Rotorcraft**

- J00-151** Analysis and Testing of Mach-Scaled Rotor with Trailing-Edge Flaps  
**J00-038** Correlation of Helicopter Rotor Tip Vortex Measurements  
**J00-006** Finite Element Adaptive Multigrid Euler Solver for Rotary Wing Aerodynamics  
**J00-017** Multibody Implementation of Finite Volume C0 Beams  
**J00-007** Rotor Wake Modeling for Flight Dynamic Simulation of Helicopters

**Simulation**

- J00-196** Methodology for Managing the Effect of Uncertainty in Simulation-Based Design  
**J00-290** Nonlinear Finite Element Analysis of Machining and Sheet Metal Forming

**STOL/VTOL/STOVL**

- J00-236** Centerline Vorticity Transport Within a Jet in Crossflow  
**J00-240** Coupled Helicopter Rotor/Flexible Fuselage Aeroelastic Model for Control of Structural Response  
**J00-217** Gross-Entrainment Behavior of Turbulent Jets Injected Obliquely into a Uniform Crossflow

**Structural Design (Including Loads)**

- J00-259** Nonlinear Behavior of Thick Composites with Uniform Fiber Waviness  
**J00-241** Thermal Buckling of Axially Precompressed Cylindrical Shells Irradiated by Laser Beam

**Structural Materials**

- J00-101** Failure Analysis of Scarf-Patch-Repaired Carbon Fiber/Epoxy Laminates Under Compression  
**J00-043** Single- vs Multilayer Plate Modelings on the Basis of Reissner's Mixed Theorem  
**J00-014** Strength Prediction of Fiber Reinforced Plastics with a Hole Under Compression-Tension

**Testing, Flight and Ground**

- J00-224** Model Attitude Determination in Wind Tunnel with a Luminescent Paint Data System  
**J00-259** Nonlinear Behavior of Thick Composites with Uniform Fiber Waviness  
**J00-130** Photogrammetry Applied to Wind-Tunnel Testing

**Vibration**

- J00-151** Analysis and Testing of Mach-Scaled Rotor with Trailing-Edge Flaps  
**J00-131** Control of Shock Loading from a Jet in a Flexible Structure's Presence  
**J00-098** Correcting System Matrices Using the Orthogonality Conditions of Distinct Measured Modes  
**J00-240** Coupled Helicopter Rotor/Flexible Fuselage Aeroelastic Model for Control of Structural Response  
**J00-139** Use of Substructural Transmission Zeros for Structural Health Monitoring  
**J00-049** Vibration of Thermally Stressed Pretwisted Cantilever Composite Plates

**J00-152** Vibration Reduction in Rotor Blades Using Active Composite Box Beam

**Energy****Reciprocating Machinery**

- J00-056** Large Eddy Simulation in Complex Geometric Configurations Using Boundary Body Forces

**Rotating Machinery**

- J00-147** Application of Acoustic Analogy to Automotive Engine-Cooling Fan Noise Prediction  
**J00-114** Dynamic Analysis of a Spinning Timoshenko Beam by the Differential Quadrature Method  
**J00-270** Euler-Based Inverse Method for Turbomachine Blades, Part 2: Three-Dimensional Flows  
**J00-153** Numerical and Experimental Study of Rotating Stall in an Axial Compressor Stage

**Fluid Dynamics****Aeroacoustics**

- J00-025** Absorption of Sound near Abrupt Area Expansions  
**J00-074** Analytical Predictions and Measurements of the Noise Radiated from Supersonic Coaxial Jets  
**J00-147** Application of Acoustic Analogy to Automotive Engine-Cooling Fan Noise Prediction  
**J00-046** Application of Lighthill's Equation to a Mach 1.92 Turbulent Jet  
**J99-024** Comment on "Jet Mixing Noise from Fine-Scale Turbulence"  
**J99-024** Comment on "Jet Mixing Noise from Fine-Scale Turbulence"  
**J00-091** Compact Schemes with Spatial Filtering in Computational Aeroacoustics  
**J00-051** Computation of Acoustic Propagation in Two-Dimensional Sheared Ducted Flows  
**J00-295** Computation of Trailing-Edge Flow and Noise Using Large-Eddy Simulation  
**J00-207** Computational Aeroacoustic Analysis of Slat Trailing-Edge Flow  
**J00-131** Control of Shock Loading from a Jet in a Flexible Structure's Presence  
**J00-208** Discrete Vortex Simulation on the Acoustic Nonlinearity of an Orifice  
**J00-209** Effect of Plate Thickness on Impedance of Perforated Plates with Bias Flow  
**J00-104** Effects of Jet Temperature and Nozzle-Lip Thickness on Screech Tones  
**J00-273** Effects of Spatial Filtering on Sound Radiation from a Subsonic Axisymmetric Jet  
**J00-216** Eulerian Time-Domain Filtering for Spatial Large-Eddy Simulation  
**J00-137** Excitation of Thermoacoustic Instabilities by Interaction of Acoustics and Unstable Swirling Flow  
**J00-003** Impedance and Its Time-Domain Extensions  
**J00-212** Implicit High-Order-Accurate-in-Space Algorithms for the Navier-Stokes Equations  
**J00-026** Inverse Aeroacoustic Problem for a Rectangular Wing  
**J00-180** Microfluid Dynamics and Acoustics of Resonant Liners

- J00-179** Modeling the Response from a Cascade to an Upstream Acoustic Disturbance  
**J00-272** Numerical Simulation of a Mach 1.92 Turbulent Jet and Its Sound Field  
**J00-296** Numerical Simulation of the Sound Generated by Vortex Pairing in a Mixing Layer  
**J00-002** Numerical Solution of Acoustic Propagation Problems Using Linearized Euler Equations  
**J00-211** Numerically Consistent Strong Conservation Grid Motion for Finite Difference Schemes  
**J00-126** On Mixing Enhancement via Nozzle Trailing-Edge Modifications in High-Speed Jets  
**J00-052** Prediction of Rotorcraft Noise with a Low-Dispersion Finite Volume Scheme  
**J98-294** Screech Tone Noise and Mode Switching in Supersonic Swirling Jets  
**J00-034** Separated Flow Surface Pressure Fluctuations and Pressure-Velocity Correlations on Prolate Spheroid  
**J00-001** Staggered-Mesh Computation for Aerodynamic Sound  
**J00-242** Subgrid-Scale Contribution to Noise Production in Decaying Isotropic Turbulence  
**J00-075** Subsonic Jet Noise from Nonaxisymmetric and Tabbed Nozzles  
**J00-200** Test Time Increase by Delaying Driver Gas Contamination for Reflected Shock Tunnels  
**J00-073** Trailing-Edge Noise Prediction Using Large-Eddy Simulation and Acoustic Analogy  
**J00-010** Two Interacting Vortex Ring Pairs and Their Sound Generation  
**J00-275** Unsteady Flow Computations of a Slat with a Blunt Trailing Edge  
**J00-210** Unsteady Leading-Edge Suction Effects on Rotor-Stator Interaction Noise

**Boundary Layers and Heat Transfer—Laminar**

- J00-156** Direct Numerical Simulation of Leading-Edge Receptivity to Sound  
**J00-232** Effect of Total Temperature on Boundary-Layer Stability at Mach 6  
**J00-047** Numerical Optimization of the Suction Distribution for Laminar Flow Control  
**J00-239** Temperature Measurements in a Hypersonic Boundary Layer Using Planar Laser-Induced Fluorescence

**Boundary Layers and Heat Transfer—Turbulent**

- J00-129** Assessment and Modification of Two-Equation Turbulence Models  
**J00-245** Effects of Pressure Gradients on Turbulent Boundary Layer Wave Number Frequency Spectra  
**J00-157** Electrodynamodynamic Flow Control with a Glow-Discharge Surface Plasma  
**J00-132** Experimental Investigation of the Confluent Boundary Layer of a High-Lift System  
**J00-243** Flow Properties of a Supersonic Turbulent Boundary Layer with Wall Roughness  
**J00-071** Generation of Inflow Conditions in a Reynolds-Averaged Navier-Stokes Closure  
**J00-076** Grid-Size Dependence in the Large-Eddy Simulation of Kolmogorov Flow  
**J00-182** Influence of Curvature-Driven Favorable Pressure Gradient on Supersonic Turbulent Boundary Layer  
**J00-134** Interwake Turbulence Properties of Homogeneous Dilute Particle-Laden Flows



- J00-283** Mean Flowfield Scaling of Supersonic Shock-Free Three-Dimensional Turbulent Boundary Layer
- J00-201** Modeling of Afterbody Flows with Realistic Propulsive Gases: A Prospective Study
- J00-148** Navier-Stokes Prediction of Internal Flows with a Three-Equation Turbulence Model
- J00-291** Nonlinear Stress-Strain Model Accounting for Dissipation Anisotropies
- J00-213** Numerical Solution of the Reduced Navier-Stokes Equations for Internal Incompressible Flows
- J00-183** Parallel Computations of High-Lift Airfoil Flows Using Two-Equation Turbulence Models
- J00-125** Prediction of Hysteresis Associated with the Static Stall of an Airfoil
- J00-173** Resolving the Dependence on Free-Stream Values for the  $k$ - $\omega$  Turbulence Model
- J00-034** Separated Flow Surface Pressure Fluctuations and Pressure-Velocity Correlations on Prolate Spheroid
- J00-181** Subgrid-Scale Models for Large-Eddy Simulations of Compressible Wall Bounded Flows
- J00-200** Test Time Increase by Delaying Driver Gas Contamination for Reflected Shock Tunnels
- J00-081** Turbulence Generation in Homogeneous Particle-Laden Flows
- J00-187** Turbulence Model Predictions of Strongly Curved Flow in a U-Duct

#### **Boundary-Layer Stability and Transition**

- J00-048** Channel Flow Instability in Presence of Weak Distributed Surface Suction
- J00-156** Direct Numerical Simulation of Leading-Edge Receptivity to Sound
- J00-232** Effect of Total Temperature on Boundary-Layer Stability at Mach 6
- J00-004** Four-Channel Suction Distribution Optimization Experiments for Laminar Flow Control
- J00-184** Navier-Stokes Simulation of Harmonic Point Disturbances in an Airfoil Boundary Layer
- J00-174** Numerical Simulation of Unsteady Low-Reynolds-Number Separated Flows over Airfoils
- J00-186** Refined Interaction Method for Direct Numerical Simulation of Transition in Separation Bubbles
- J00-032** Traveling Instability Waves in a Mach 8 Flow over an Elliptic Cone
- J00-124** Unsteady Lifting Surface Theory in Sonic Flow: The Problem Revisited
- J00-027** Variable  $N$ -Factor Method for Transition Prediction in Three-Dimensional Boundary Layers

#### **Computational Fluid Dynamics**

- J00-031** Accurate Aerodynamic Sensitivity Analysis Using Adjoint Equations
- J00-280** Accurate and Efficient Discretization of the Navier-Stokes Equations on Mixed Grids
- J00-298** Adaptive QUICK-Based Scheme to Approximate Convective Transport
- J00-053** Aerodynamic Computations Using the Convective-Upstream Split-Pressure Scheme with Local Preconditioning
- J00-129** Assessment and Modification of Two-Equation Turbulence Models
- J98-262** Comment on "Limitations of a Reduced Model for the Simulation of Hydrogen/Air Combustion"

- J00-295** Computation of Trailing-Edge Flow and Noise Using Large-Eddy Simulation
- J00-159** Computational Fluid Dynamics Algorithms for Unsteady Shock-Induced Combustion, Part I: Validation
- J00-160** Computational Fluid Dynamics Algorithms for Unsteady Shock-Induced Combustion, Part 2: Comparison
- J00-279** Computational Treatment of Source Terms in Two-Equation Turbulence Models
- J00-094** Design of a Nozzle Contraction for Uniform Sonic Throat Flow
- J00-093** Development of  $O(Nm^2)$  Preconditioned Multigrid Solvers for Euler and Navier-Stokes Equations
- J00-156** Direct Numerical Simulation of Leading-Edge Receptivity to Sound
- J00-297** Divergence Free Bases and Multiresolution Methods for Reduced-Order Flow Modeling
- J00-092** Drag Reduction with a Sliding Wall in Flow over a Circular Cylinder
- J00-104** Effects of Jet Temperature and Nozzle-Lip Thickness on Screech Tones
- J00-273** Effects of Spatial Filtering on Sound Radiation from a Subsonic Axisymmetric Jet
- J00-030** Efficient Computational Model for Inductive Plasma Flows
- J00-054** Elimination of Spurious Loss in Euler Equation Computations
- J00-270** Euler-Based Inverse Method for Turbomachine Blades, Part 2: Three-Dimensional Flows
- J00-216** Eulerian Time-Domain Filtering for Spatial Large-Eddy Simulation
- J00-247** Factorized Implicit Upwind Methods Applied to Inviscid Flows at High Mach Number
- J00-299** Fast, Block Lower-Upper Symmetric Gauss-Seidel Scheme For Arbitrary Grids
- J00-006** Finite Element Adaptive Multigrid Euler Solver for Rotary Wing Aerodynamics
- J00-095** Hypersonic Flow Control Using Upstream Focused Energy Deposition
- J00-003** Impedance and Its Time-Domain Extensions
- J00-212** Implicit High-Order-Accurate-in-Space Algorithms for the Navier-Stokes Equations
- J00-175** Improved Low-Reynolds Number  $k$ - $\epsilon$  Model
- J00-214** Influence of Nozzle Conditions and Discrete Forcing on Turbulent Planar Jets
- J00-278** Intergrid-Boundary Definition Method for Overset Unstructured Grid Approach
- J00-005** Inverse Solution Uniqueness and Domain of Existence for Space-Marching Applications
- J00-060** Investigation of Nonlinear Eddy-Viscosity Turbulence Models in Shock/Boundary-Layer Interaction
- J00-029** Iterative Space-Marching Method for Compressible Sub-, Trans-, and Supersonic Flows
- J00-249** Jet Mixing Enhancement by High-Amplitude Fluidic Actuation
- J00-056** Large Eddy Simulation in Complex Geometric Configurations Using Boundary Body Forces
- J00-058** Large Eddy Simulations of the Flow Around a Square Prism
- J00-077** Large-Eddy Simulations: Where Are We and What Can We Expect?
- J00-185** Local Block Relaxation Method for the Solution of the Equations of Gasdynamics
- J00-215** Low-Diffusion Flux-Splitting Methods for Real Fluid Flows with Phase Transitions
- J00-265** Marching Distance Functions for Smooth Control of Hyperbolic Grids
- J00-283** Mean Flowfield Scaling of Supersonic Shock-Free Three-Dimensional Turbulent Boundary Layer

- J00-180** Microfluid Dynamics and Acoustics of Resonant Liners
- J00-218** Modeling Dissipation Equation in Supersonic Turbulent Mixing Layers with High-Density Gradients
- J00-179** Modeling the Response from a Cascade to an Upstream Acoustic Disturbance
- J00-184** Navier-Stokes Simulation of Harmonic Point Disturbances in an Airfoil Boundary Layer
- J00-148** Navier-Stokes Prediction of Internal Flows with a Three-Equation Turbulence Model
- J00-161** New Two-Equation Eddy Viscosity Transport Model for Turbulent Flow Computation
- J00-153** Numerical and Experimental Study of Rotating Stall in an Axial Compressor Stage
- J00-198** Numerical Investigation into Multiple Vortex Structures Formed over Flat End-Cap Wings
- J00-158** Numerical Investigation of Instability and Transition in an Obstructed Channel
- J00-272** Numerical Simulation of a Mach 1.92 Turbulent Jet and Its Sound Field
- J00-282** Numerical Simulation of Shock-Enhanced Mixing in Nonuniform Density Turbulent Jets
- J00-213** Numerical Solution of the Reduced Navier-Stokes Equations for Internal Incompressible Flows
- J00-035** Numerical Study of Shock-Reflection Hysteresis in an Underexpanded Jet
- J00-211** Numerically Consistent Strong Conservation Grid Motion for Finite Difference Schemes
- J00-281** Padé-Type Higher-Order Boundary Filters for the Navier-Stokes Equations
- J00-246** Parabolized Navier-Stokes Algorithm for Solving Supersonic Flows with Upstream Influences
- J00-125** Prediction of Hysteresis Associated with the Static Stall of an Airfoil
- J00-186** Refined Interaction Method for Direct Numerical Simulation of Transition in Separation Bubbles
- J00-173** Resolving the Dependence on Free-Stream Values for the  $k$ - $\omega$  Turbulence Model
- J00-202** Response Surface Techniques for Diffuser Shape Optimization
- J00-007** Rotor Wake Modeling for Flight Dynamic Simulation of Helicopters
- J00-055** Smoothed Sensitivity Equation Method for Fluid Dynamic Design Problems
- J00-313** Smoothing of the Multiple One-Dimensional Adaptive Grid Procedure
- J00-106** Solution of the Two-Dimensional Vorticity Equation on a Lagrangian Mesh
- J00-001** Staggered-Mesh Computation for Aerodynamic Sound
- J00-242** Subgrid-Scale Contribution to Noise Production in Decaying Isotropic Turbulence
- J00-181** Subgrid-Scale Models for Large-Eddy Simulations of Compressible Wall Bounded Flows
- J00-233** Turbulence Closure Model Constraint Derived from Stress-Induced Secondary Flow
- J00-187** Turbulence Model Predictions of Strongly Curved Flow in a U-Duct
- J00-010** Two Interacting Vortex Ring Pairs and Their Sound Generation
- J00-028** Two-Dimensional Elliptic Grid Solver Using Boundary Grid Control and Curvature Correction
- J00-275** Unsteady Flow Computations of a Slat with a Blunt Trailing Edge



- J00-124** Unsteady Lifting Surface Theory in Sonic Flow: The Problem Revisited  
**J00-300** Unstructured Grid Arbitrarily Shaped Element Method For Fluid Flow Simulation  
**J00-277** Viscous Flow Analysis Using a Parallel Unstructured Multigrid Solver  
**J00-149** Vortex Method Simulation of the Flow Around a Circular Cylinder

### Hydrodynamics

- J00-041** Adaptive Control of Shape Memory Alloy Actuators for Underwater Biomimetic Applications  
**J00-245** Effects of Pressure Gradients on Turbulent Boundary Layer Wave Number Frequency Spectra  
**J00-106** Solution of the Two-Dimensional Vorticity Equation on a Lagrangian Mesh  
**J00-111** Turbulent Vortex Breakdown at High Reynolds Numbers

### Hypersonic Flow

- J00-221** Coherent Anti-Stokes Raman Scattering Measurements and Computational Modeling of Nonequilibrium Flow  
**J00-232** Effect of Total Temperature on Boundary-Layer Stability at Mach 6  
**J00-235** Effects of Vibrational Relaxation on Bow Shock Standoff Distance for Nonequilibrium Flows  
**J00-247** Factorized Implicit Upwind Methods Applied to Inviscid Flows at High Mach Number  
**J00-095** Hypersonic Flow Control Using Upstream Focused Energy Deposition  
**J00-303** Numerical and Experimental Investigation of Double-Cone Shock Interactions  
**J00-222** Recent Advances in Detonation Techniques for High-Enthalpy Facilities  
**J00-062** Supersonic Channel Airfoils for Reduced Drag  
**J00-239** Temperature Measurements in a Hypersonic Boundary Layer Using Planar Laser-Induced Fluorescence  
**J00-200** Test Time Increase by Delaying Driver Gas Contamination for Reflected Shock Tunnels  
**J00-032** Traveling Instability Waves in a Mach 8 Flow over an Elliptic Cone  
**J00-312** Ultraviolet Radiation Modeling from High-Altitude Plumes and Comparison with Mir Data

### Inlet, Nozzle, Diffuser, and Channel Flows

- J00-094** Design of a Nozzle Contraction for Uniform Sonic Throat Flow  
**J00-071** Generation of Inflow Conditions in a Reynolds-Averaged Navier-Stokes Closure  
**J00-179** Modeling the Response from a Cascade to an Upstream Acoustic Disturbance  
**J00-291** Nonlinear Stress-Strain Model Accounting for Dissipation Anisotropies  
**J00-213** Numerical Solution of the Reduced Navier-Stokes Equations for Internal Incompressible Flows  
**J00-035** Numerical Study of Shock-Reflection Hysteresis in an Underexpanded Jet  
**J00-126** On Mixing Enhancement via Nozzle Trailing-Edge Modifications in High-Speed Jets  
**J00-163** Parametric Study of Simplex Fuel Nozzle Internal Flow and Performance  
**J00-133** Penetration and Spreading of Liquid Jets in an External-Internal Compression Inlet

- J00-234** Pressure-Sensitive Paint Measurements in Planar Transonic Nozzle Flow  
**J00-202** Response Surface Techniques for Diffuser Shape Optimization  
**J00-181** Subgrid-Scale Models for Large-Eddy Simulations of Compressible Wall Bounded Flows  
**J00-187** Turbulence Model Predictions of Strongly Curved Flow in a U-Duct  
**J00-107** Turbulence Modeling in Rotating and Curved Channels: Assessing the Spalart-Shur Correction

### Jets, Wakes, and Viscid-Inviscid Flow Interactions

- J00-178** Approximate Added-Mass Method for Estimating Induced Power for Flapping Flight  
**J00-236** Centerline Vorticity Transport Within a Jet in Crossflow  
**J99-024** Comment on "Jet Mixing Noise from Fine-Scale Turbulence"  
**J99-024** Comment on "Jet Mixing Noise from Fine-Scale Turbulence"  
**J00-080** Eddy Convection in Coaxial Supersonic Jets  
**J00-104** Effects of Jet Temperature and Nozzle-Lip Thickness on Screech Tones  
**J00-273** Effects of Spatial Filtering on Sound Radiation from a Subsonic Axisymmetric Jet  
**J00-216** Eulerian Time-Domain Filtering for Spatial Large-Eddy Simulation  
**J00-132** Experimental Investigation of the Confluent Boundary Layer of a High-Lift System  
**J00-250** Experiments on Mach-Wave Interactions in a Compressible Shear Layer  
**J00-217** Gross-Entrainment Behavior of Turbulent Jets Injected Obliquely into a Uniform Crossflow  
**J00-214** Influence of Nozzle Conditions and Discrete Forcing on Turbulent Planar Jets  
**J00-249** Jet Mixing Enhancement by High-Amplitude Fluidic Actuation  
**J00-058** Large Eddy Simulations of the Flow Around a Square Prism  
**J00-146** Measurements in the Tip Vortex Roll-Up Region of an Oscillating Wing  
**J00-061** Mixing of a Sonic Transverse Jet Injected into a Supersonic Flow  
**J00-218** Modeling Dissipation Equation in Supersonic Turbulent Mixing Layers with High-Density Gradients  
**J00-201** Modeling of Afterbody Flows with Realistic Propulsive Gases: A Prospective Study  
**J00-303** Numerical and Experimental Investigation of Double-Cone Shock Interactions  
**J00-272** Numerical Simulation of a Mach 1.92 Turbulent Jet and Its Sound Field  
**J00-057** Resonance in an Axisymmetric Jet Under Controlled Helical, Fundamental, and Axisymmetric Subharmonic Forcing  
**J98-294** Screech Tone Noise and Mode Switching in Supersonic Swirling Jets  
**J00-165** Self-Similarity of Hydroxyl-Concentration Temporal Statistics in Turbulent Nonpremixed Jet Flames  
**J00-264** Studies on Polygonal Slot Jets  
**J00-075** Subsonic Jet Noise from Nonaxisymmetric and Tabbed Nozzles  
**J00-011** Turbulence Effect on Frequency Characteristics of Unsteady Motions in Wake of Wing  
**J00-081** Turbulence Generation in Homogeneous Particle-Laden Flows

- J00-033** Turbulence Production and Transport in Quasi-Two-Dimensional Wake/Boundary-Layer Interaction  
**J00-078** Wake of a Self-Propelled Body, Part 1: Momentumless Wake  
**J00-079** Wake of a Self-Propelled Body, Part 2: Momentumless Wake with Swirl

### Multiphase Flows

- J00-008** Effects of Injection Angle on Atomization of Liquid Jets in Transverse Airflow  
**J00-059** Instability of an Annular Liquid Sheet Surrounded by Swirling Airstreams  
**J00-134** Interwake Turbulence Properties of Homogeneous Dilute Particle-Laden Flows  
**J00-215** Low-Diffusion Flux-Splitting Methods for Real Fluid Flows with Phase Transitions  
**J00-163** Parametric Study of Simplex Fuel Nozzle Internal Flow and Performance  
**J00-081** Turbulence Generation in Homogeneous Particle-Laden Flows

### Plasmadynamics and MHD

- J00-009** Direct Numerical Simulation and Modeling of a Nonequilibrium Turbulent Plasma  
**J00-030** Efficient Computational Model for Inductive Plasma Flows  
**J00-157** Electrodynamical Flow Control with a Glow-Discharge Surface Plasma  
**J00-189** Modeling the Propagation of a Shock Wave Through a Glow Discharge  
**J00-251** Supersonic Nonequilibrium Plasma Wind-Tunnel Measurements of Shock Modification and Flow Visualization

### Reacting Flows and Combustion

- J98-262** Comment on "Limitations of a Reduced Model for the Simulation of Hydrogen/Air Combustion"  
**J00-159** Computational Fluid Dynamics Algorithms for Unsteady Shock-Induced Combustion, Part I: Validation  
**J00-160** Computational Fluid Dynamics Algorithms for Unsteady Shock-Induced Combustion, Part 2: Comparison  
**J00-009** Direct Numerical Simulation and Modeling of a Nonequilibrium Turbulent Plasma  
**J00-253** Effects of Combustion and Shock Impingement on Supersonic Film Cooling by Hydrogen  
**J00-235** Effects of Vibrational Relaxation on Bow Shock Standoff Distance for Nonequilibrium Flows  
**J00-137** Excitation of Thermoacoustic Instabilities by Interaction of Acoustics and Unstable Swirling Flow  
**J00-266** Ignition Mechanisms of Jet-A Fuel Vapor in a Confined Environment  
**J00-188** Influence of Random Excitations on Acoustic Instabilities in Combustion Chambers  
**J00-252** Interference Effects During Burning of Tandem Porous Spheres in Mixed Convective Environment  
**J00-302** Nonelectrical (NONEL) Tube Explosive Transfer System  
**J00-102** Numerical Simulation of a Three-Dimensional Flame/Shock Wave Interaction  
**J00-164** Oscillatory Temperature Measurements in a Pulsed Microgravity Diffusion Flame

### Separated Flows

- J00-092** Drag Reduction with a Sliding Wall in Flow over a Circular Cylinder



- J00-071** Generation of Inflow Conditions in a Reynolds-Averaged Navier-Stokes Closure  
**J00-175** Improved Low-Reynolds Number k-E Model  
**J00-109** Interaction Between a Conical Shock Wave and a Plane Turbulent Boundary Layer  
**J00-134** Interwake Turbulence Properties of Homogeneous Dilute Particle-Laden Flows  
**J00-201** Modeling of Afterbody Flows with Realistic Propulsive Gases: A Prospective Study  
**J00-184** Navier-Stokes Simulation of Harmonic Point Disturbances in an Airfoil Boundary Layer  
**J00-161** New Two-Equation Eddy Viscosity Transport Model for Turbulent Flow Computation  
**J00-303** Numerical and Experimental Investigation of Double-Cone Shock Interactions  
**J00-158** Numerical Investigation of Instability and Transition in an Obstructed Channel  
**J00-047** Numerical Optimization of the Suction Distribution for Laminar Flow Control  
**J00-174** Numerical Simulation of Unsteady Low-Reynolds-Number Separated Flows over Airfoils  
**J00-108** Oscillation of Vortex Breakdown Location and Blowing Control of Time-Averaged Location  
**J00-246** Parabolized Navier-Stokes Algorithm for Solving Supersonic Flows with Upstream Influences  
**J00-186** Refined Interaction Method for Direct Numerical Simulation of Transition in Separation Bubbles  
**J00-237** Roughness and Turbulence Effects on the Surface Pressure over Yawed Cylinders  
**J00-034** Separated Flow Surface Pressure Fluctuations and Pressure-Velocity Correlations on Prolate Spheroid  
**J00-254** Shear Layer Flapping and Interface Convolution in a Separated Supersonic Flow  
**J00-149** Vortex Method Simulation of the Flow Around a Circular Cylinder

### Shock Waves and Detonations

- J00-235** Effects of Vibrational Relaxation on Bow Shock Standoff Distance for Nonequilibrium Flows  
**J00-109** Interaction Between a Conical Shock Wave and a Plane Turbulent Boundary Layer  
**J00-060** Investigation of Nonlinear Eddy-Viscosity Turbulence Models in Shock/Boundary-Layer Interaction  
**J00-189** Modeling the Propagation of a Shock Wave Through a Glow Discharge  
**J00-282** Numerical Simulation of Shock-Enhanced Mixing in Nonuniform Density Turbulent Jets  
**J00-035** Numerical Study of Shock-Reflection Hysteresis in an Underexpanded Jet  
**J00-135** Shock-Shape Alteration Caused by Interaction with Organized Structures  
**J00-251** Supersonic Nonequilibrium Plasma Wind-Tunnel Measurements of Shock Modification and Flow Visualization  
**J00-166** Velocity Measurements in a Shock-Separated Free Shear Layer

### Subsonic Flow

- J00-094** Design of a Nozzle Contraction for Uniform Sonic Throat Flow  
**J00-077** Large-Eddy Simulations: Where Are We and What Can We Expect?  
**J00-237** Roughness and Turbulence Effects on the Surface Pressure over Yawed Cylinders

- J00-075** Subsonic Jet Noise from Nonaxisymmetric and Tabbed Nozzles

### Supersonic Flow

- J00-046** Application of Lighthill's Equation to a Mach 1.92 Turbulent Jet  
**J00-250** Experiments on Mach-Wave Interactions in a Compressible Shear Layer  
**J00-243** Flow Properties of a Supersonic Turbulent Boundary Layer with Wall Roughness  
**J00-182** Influence of Curvature-Driven Favorable Pressure Gradient on Supersonic Turbulent Boundary Layer  
**J00-109** Interaction Between a Conical Shock Wave and a Plane Turbulent Boundary Layer  
**J00-283** Mean Flowfield Scaling of Supersonic Shock-Free Three-Dimensional Turbulent Boundary Layer  
**J00-085** Megahertz Pulse-Burst Laser and Visualization of Shock-Wave/Boundary-Layer Interaction  
**J00-061** Mixing of a Sonic Transverse Jet Injected into a Supersonic Flow  
**J00-218** Modeling Dissipation Equation in Supersonic Turbulent Mixing Layers with High-Density Gradients  
**J00-126** On Mixing Enhancement via Nozzle Trailing-Edge Modifications in High-Speed Jets  
**J00-246** Parabolized Navier-Stokes Algorithm for Solving Supersonic Flows with Upstream Influences  
**J00-072** Review of Planar Multiple-Component Velocimetry in High-Speed Flows  
**J00-254** Shear Layer Flapping and Interface Convolution in a Separated Supersonic Flow  
**J00-062** Supersonic Channel Airfoils for Reduced Drag  
**J00-251** Supersonic Nonequilibrium Plasma Wind-Tunnel Measurements of Shock Modification and Flow Visualization  
**J00-269** Two-Color Planar Doppler Velocimetry  
**J00-166** Velocity Measurements in a Shock-Separated Free Shear Layer

### Transonic Flow

- J00-060** Investigation of Nonlinear Eddy-Viscosity Turbulence Models in Shock/Boundary-Layer Interaction  
**J00-029** Iterative Space-Marching Method for Compressible Sub-, Trans-, and Supersonic Flows  
**J00-234** Pressure-Sensitive Paint Measurements in Planar Transonic Nozzle Flow

### Unsteady Flows

- J99-024** Comment on "Jet Mixing Noise from Fine-Scale Turbulence"  
**J99-024** Comment on "Jet Mixing Noise from Fine-Scale Turbulence"  
**J00-295** Computation of Trailing-Edge Flow and Noise Using Large-Eddy Simulation  
**J00-204** Effects of Wall Admittance Changes on Aeroelastic Stability of Turbomachines  
**J00-212** Implicit High-Order-Accurate-in-Space Algorithms for the Navier-Stokes Equations  
**J00-036** Incidence Effects on Chordwise Bending Cascade Unsteady Aerodynamics  
**J00-127** Insensitivity of Unsteady Vortex Interactions to Reynolds Number  
**J00-056** Large Eddy Simulation in Complex Geometric Configurations Using Boundary Body Forces

- J00-058** Large Eddy Simulations of the Flow Around a Square Prism  
**J00-180** Microfluid Dynamics and Acoustics of Resonant Liners  
**J00-128** Modeling of Three-Dimensional Viscous Compressible Turbomachinery Flows Using Unstructured Hybrid Grids  
**J00-153** Numerical and Experimental Study of Rotating Stall in an Axial Compressor Stage  
**J00-158** Numerical Investigation of Instability and Transition in an Obstructed Channel  
**J00-174** Numerical Simulation of Unsteady Low-Reynolds-Number Separated Flows over Airfoils  
**J00-108** Oscillation of Vortex Breakdown Location and Blowing Control of Time-Averaged Location  
**J00-164** Oscillatory Temperature Measurements in a Pulsed Microgravity Diffusion Flame  
**J00-304** Simulation of Deployment Dynamics of Inflatable Structures  
**J00-106** Solution of the Two-Dimensional Vorticity Equation on a Lagrangian Mesh  
**J00-275** Unsteady Flow Computations of a Slat with a Blunt Trailing Edge

### Viscous Non-Boundary-Layer Flows

- J00-190** Strongly Stably Stratified Grid Turbulence Using Second-Moment Closure  
**J00-107** Turbulence Modeling in Rotating and Curved Channels: Assessing the Spalart-Shur Correction

### Vortices

- J00-236** Centerline Vorticity Transport Within a Jet in Crossflow  
**J00-162** Collision of a Vortex-Jet with Stator Vanes  
**J00-038** Correlation of Helicopter Rotor Tip Vortex Measurements  
**J00-292** Direct Circulation Measurement of a Tip Vortex  
**J00-208** Discrete Vortex Simulation on the Acoustic Nonlinearity of an Orifice  
**J00-209** Effect of Plate Thickness on Impedance of Perforated Plates with Bias Flow  
**J00-083** Evolution of an Isolated Turbulent Trailing Vortex  
**J00-127** Insensitivity of Unsteady Vortex Interactions to Reynolds Number  
**J00-037** Large Eddy Simulation of Aircraft Wake Vortices Within Homogeneous Turbulence: Crow Instability  
**J00-146** Measurements in the Tip Vortex Roll-Up Region of an Oscillating Wing  
**J00-110** Multiple Inviscid Solutions for the Flow in a Leading-Edge Vortex  
**J00-198** Numerical Investigation into Multiple Vortex Structures Formed over Flat End-Cap Wings  
**J00-282** Numerical Simulation of Shock-Enhanced Mixing in Nonuniform Density Turbulent Jets  
**J00-082** Numerical Study of Wake Vortex Decay and Descent in a Homogeneous Atmospheric Turbulence  
**J00-108** Oscillation of Vortex Breakdown Location and Blowing Control of Time-Averaged Location  
**J00-164** Oscillatory Temperature Measurements in a Pulsed Microgravity Diffusion Flame  
**J00-057** Resonance in an Axisymmetric Jet Under Controlled Helical, Fundamental, and Axisymmetric Subharmonic Forcing



- J00-023** Shaping of Delta-Wing Planform to Suppress Vortex Breakdown  
**J00-255** Short-Scale Instabilities in Trailing Wake Vortices in a Stratified Fluid  
**J00-024** Surface Shaping to Suppress Vortex Breakdown on Delta Wings  
**J00-011** Turbulence Effect on Frequency Characteristics of Unsteady Motions in Wake of Wing  
**J00-111** Turbulent Vortex Breakdown at High Reynolds Numbers  
**J00-010** Two Interacting Vortex Ring Pairs and Their Sound Generation  
**J00-166** Velocity Measurements in a Shock-Separated Free Shear Layer  
**J00-149** Vortex Method Simulation of the Flow Around a Circular Cylinder

### Wave Motion and Sloshing

- J00-254** Shear Layer Flapping and Interface Convolution in a Separated Supersonic Flow

## Guidance, Control, and Dynamics Technology

### Astrodynamics

- J00-219** Motion in a Microgravity Environment

### Control System Design

- J00-238** Probabilistic Approach for Integrated Structural Control Design

### Dynamics

- J00-191** Calculating Derivatives of Repeated and Nonrepeated Eigenvalues Without Explicit Use of Eigenvectors  
**J00-314** Derivatives of Complex Eigenvectors using Nelson's Method  
**J00-019** Redesigning the Dynamics of Structural Systems  
**J00-194** Unconditionally Stable Time-Step-Integration Algorithms Based on Hamilton's Principle

### Flight Mechanics

- J00-007** Rotor Wake Modeling for Flight Dynamic Simulation of Helicopters

### Optimization Techniques

- J00-021** Bilevel Integrated System Synthesis  
**J00-257** Collaborative Optimization Using Response Surface Estimation  
**J00-284** Engineering Design Optimization Using Interior-Point Algorithms  
**J00-020** From Dubious Construction of Objective Functions to the Application of Physical Programming  
**J00-202** Response Surface Techniques for Diffuser Shape Optimization  
**J00-055** Smoothed Sensitivity Equation Method for Fluid Dynamic Design Problems

### Signal Processing

- J00-142** Fusion of Wavelet Packets and Neural Network in Detection of Composites

### State Estimation

- J00-142** Fusion of Wavelet Packets and Neural Network in Detection of Composites

### System Identification

- J00-193** Damage Identification of Nonlinear Structural Systems

## Trajectory Optimization

- J00-145** Ability of Objective Functions to Generate Points on Nonconvex Pareto Frontiers  
**J00-020** From Dubious Construction of Objective Functions to the Application of Physical Programming

## Interdisciplinary Topics

### Aerospace Management

- J00-257** Collaborative Optimization Using Response Surface Estimation  
**J00-122** Interactive Physical Programming: Tradeoff Analysis and Decision Making in Multicriteria Optimization

### Analytical and Numerical Methods

- J00-145** Ability of Objective Functions to Generate Points on Nonconvex Pareto Frontiers  
**J00-178** Approximate Added-Mass Method for Estimating Induced Power for Flapping Flight  
**J00-021** Bilevel Integrated System Synthesis  
**J00-284** Engineering Design Optimization Using Interior-Point Algorithms  
**J00-256** Integrated Micro/Macro Approach for Laminate Composite Analysis: Applications to Turbine Blades  
**J00-122** Interactive Physical Programming: Tradeoff Analysis and Decision Making in Multicriteria Optimization  
**J00-265** Marching Distance Functions for Smooth Control of Hyperbolic Grids  
**J00-121** Method for Treating Discretization Error in Nondeterministic Analysis  
**J00-285** Optimal Design of Uncertain Systems Under Stochastic Excitation  
**J00-293** Optimal Structural Control by Substructure Synthesis  
**J00-117** Partitioned, Multilevel Response Surfaces for Modeling Complex Systems  
**J00-001** Staggered-Mesh Computation for Aerodynamic Sound

### Atmospheric and Space Sciences

- J00-219** Motion in a Microgravity Environment

### Lasers and Laser Applications

- J00-096** Ablative Laser Propulsion: An Old Concept Revisited  
**J00-167** Diode Laser Sensor for Gasdynamic Measurements in a Model Scramjet Combustor  
**J00-084** Laser-Generated Localized Freestream Perturbations in Supersonic and Hypersonic Flows  
**J00-012** Measurement of Transient Temperature Field Within a Falling Droplet  
**J00-085** Megahertz Pulse-Burst Laser and Visualization of Shock-Wave/Boundary-Layer Interaction  
**J00-220** Optical Alignment Tolerances and Techniques for Particle Image Velocimetry  
**J00-136** Planar Doppler Velocimetry in a Large-Scale Facility  
**J00-269** Two-Color Planar Doppler Velocimetry

### Reliability, Maintainability, and Logistics Support

- J00-310** Structural Damage Detection and Identification Using Fuzzy Logic  
**J00-305** Vibration of Dynamic Systems Under Cyclostationary Excitations

## Research Facilities and Instrumentation

- J00-063** Application of Neural Networks to Stereoscopic Imaging Velocimetry  
**J00-223** Ionizing Nitrogen and Air Flows in a Supercritical Expansion Tube  
**J00-084** Laser-Generated Localized Freestream Perturbations in Supersonic and Hypersonic Flows  
**J00-012** Measurement of Transient Temperature Field Within a Falling Droplet  
**J00-224** Model Attitude Determination in Wind Tunnel with a Luminescent Paint Data System  
**J00-220** Optical Alignment Tolerances and Techniques for Particle Image Velocimetry  
**J00-130** Photogrammetry Applied to Wind-Tunnel Testing  
**J00-222** Recent Advances in Detonation Techniques for High-Enthalpy Facilities  
**J00-112** Results for a Two-Component Doppler Global Velocimeter  
**J00-072** Review of Planar Multiple-Component Velocimetry in High-Speed Flows  
**J00-269** Two-Color Planar Doppler Velocimetry

### Safety

- J00-292** Direct Circulation Measurement of a Tip Vortex

### Sensor Systems

- J00-063** Application of Neural Networks to Stereoscopic Imaging Velocimetry

## Launch Vehicle and Missile (LV/M) Technology

### Aerodynamics

- J00-062** Supersonic Channel Airfoils for Reduced Drag  
**J00-032** Traveling Instability Waves in a Mach 8 Flow over an Elliptic Cone

### Launch Vehicle and Sounding Rocket Systems

- J00-302** Nonelectrical (NONEL) Tube Explosive Transfer System

### Propulsion and Propellant Systems

- J00-096** Ablative Laser Propulsion: An Old Concept Revisited  
**J00-226** Quantitative Effects of Projectile-Launch Tube Wall Friction on Ballistic Range Operation  
**J00-225** Review of Propulsion Applications of Detonation Waves

## Propulsion

### Airbreathing Propulsion

- J00-022** Aerodynamic Design Using Neural Networks  
**J00-263** Convergence Acceleration of an Inverse Design Technique for Constructing Turbomachinery Cascades  
**J00-167** Diode Laser Sensor for Gasdynamic Measurements in a Model Scramjet Combustor  
**J00-080** Eddy Convection in Coaxial Supersonic Jets  
**J00-059** Instability of an Annular Liquid Sheet Surrounded by Swirling Airstreams  
**J00-133** Penetration and Spreading of Liquid Jets in an External-Internal Compression Inlet



**J00-225** Review of Propulsion Applications of Detonation Waves

### Combustion and Combustor Designs

**J00-217** Gross-Entrainment Behavior of Turbulent Jets Injected Obliquely into a Uniform Crossflow

**J00-252** Interference Effects During Burning of Tandem Porous Spheres in Mixed Convective Environment

**J00-165** Self-Similarity of Hydroxyl-Concentration Temporal Statistics in Turbulent Non-premixed Jet Flames

### Combustion Instability

**J00-137** Excitation of Thermoacoustic Instabilities by Interaction of Acoustics and Unstable Swirling Flow

**J00-188** Influence of Random Excitations on Acoustic Instabilities in Combustion Chambers

### Droplet Characterization

**J00-252** Interference Effects During Burning of Tandem Porous Spheres in Mixed Convective Environment

**J00-012** Measurement of Transient Temperature Field Within a Falling Droplet

### Fuels and Propellants, Properties of

**J00-096** Ablative Laser Propulsion: An Old Concept Revisited

**J00-266** Ignition Mechanisms of Jet-A Fuel Vapor in a Confined Environment

**J00-226** Quantitative Effects of Projectile-Launch Tube Wall Friction on Ballistic Range Operation

### Propulsion Hazards

**J00-266** Ignition Mechanisms of Jet-A Fuel Vapor in a Confined Environment

### Ramjets and Scramjets

**J00-253** Effects of Combustion and Shock Impingement on Supersonic Film Cooling by Hydrogen

**J00-250** Experiments on Mach-Wave Interactions in a Compressible Shear Layer

**J00-102** Numerical Simulation of a Three-Dimensional Flame/Shock Wave Interaction

**J00-133** Penetration and Spreading of Liquid Jets in an External-Internal Compression Inlet

### Solid Rocket Motors and Missile Systems

**J00-188** Influence of Random Excitations on Acoustic Instabilities in Combustion Chambers

### Supersonic Combustion

**J00-159** Computational Fluid Dynamics Algorithms for Unsteady Shock-Induced Combustion, Part I: Validation

**J00-160** Computational Fluid Dynamics Algorithms for Unsteady Shock-Induced Combustion, Part 2: Comparison

**J00-167** Diode Laser Sensor for Gasdynamic Measurements in a Model Scramjet Combustor

**J00-253** Effects of Combustion and Shock Impingement on Supersonic Film Cooling by Hydrogen

**J00-102** Numerical Simulation of a Three-Dimensional Flame/Shock Wave Interaction

**J98-294** Screech Tone Noise and Mode Switching in Supersonic Swirling Jets

### Transient Combustion and Detonation

**J00-225** Review of Propulsion Applications of Detonation Waves

### Space Technology

#### Space Experiments

**J00-219** Motion in a Microgravity Environment

#### Space Systems

**J00-312** Ultraviolet Radiation Modeling from High-Altitude Plumes and Comparison with Mir Data

### Spacecraft Structural Configuration, Design, and Analysis

**J00-241** Thermal Buckling of Axially Precompressed Cylindrical Shells Irradiated by Laser Beam

### Structural Mechanics and Materials

#### Aeroelasticity and Control

**J00-113** Aeroelastic Analysis of a Hingeless Rotor Blade in Forward Flight

**J00-131** Control of Shock Loading from a Jet in a Flexible Structure's Presence

**J00-240** Coupled Helicopter Rotor/Flexible Fuselage Aeroelastic Model for Control of Structural Response

**J00-204** Effects of Wall Admittance Changes on Aeroelastic Stability of Turbomachines

**J00-206** Nonlinear Response of Airfoil Section with Control Surface Freeplay to Gust Loads

**J00-267** Ply Angle Optimization of Nonuniform Composite Beams Subject to Aeroelastic Constraints

**J00-238** Probabilistic Approach for Integrated Structural Control Design

**J00-306** Shape Control of Beams by Piezoelectric Actuators

#### Dynamic Model Analysis

**J00-191** Calculating Derivatives of Repeated and Nonrepeated Eigenvalues Without Explicit Use of Eigenvectors

**J00-314** Derivatives of Complex Eigenvectors using Nelson's Method

**J00-039** Determination of Nonideal Beam Boundary Conditions: A Spectral Element Approach

**J00-315** Dispersion Relations in Piezoelectric Coupled Beams

**J00-114** Dynamic Analysis of a Spinning Timoshenko Beam by the Differential Quadrature Method

**J00-144** Dynamic Superelement Modeling Method for Compound Dynamic Systems

**J00-229** Effects of Structural Damping and Stiffness on Impact Response of Layered Structure

**J00-168** Energy Method for Selection of Degrees of Freedom in Condensation

**J00-227** Estimation of Layerwise Elastic Parameters of Stiffened Composite Plates

**J00-286** Inherently Incomplete Finite Element Model and Its Effects on Model Updating

**J00-013** Investigation of Equivalent System Modeling and Dynamic Characteristics Using Reduced Models

**J00-099** Modal Response of Trapezoidal Wing Structures Using Second-Order Shape Sensitivities

**J00-226** Quantitative Effects of Projectile-Launch Tube Wall Friction on Ballistic Range Operation

**J00-304** Simulation of Deployment Dynamics of Inflatable Structures

**J00-138** Universal Perturbation Technique for Reanalysis of Non-Self-Adjoint Systems

**J00-139** Use of Substructural Transmission Zeros for Structural Health Monitoring

**J00-150** Vibration Analysis of Thick Laminated Composite Cylindrical Shells

### Flexible and Active Structures

**J00-064** Active Tendon Control of Large Trusses

**J00-041** Adaptive Control of Shape Memory Alloy Actuators for Underwater Biomimetic Applications

**J00-115** Cylindrical Bending of Laminated Plates with Distributed and Segmented Piezoelectric Actuators/Sensors

**J00-315** Dispersion Relations in Piezoelectric Coupled Beams

**J00-065** Dynamic Response of Adaptive Cross-Ply Cantilevers Featuring Interlaminar Bonding Imperfections

**J00-172** Exact Bending Solution of Inhomogeneous Plates from Homogeneous Thin-Plate Deflection

**J00-042** Generalized Plane Solution for Monoclinic Piezoelectric Laminates

**J00-230** Improved Electrorheological-Fluid Variable Damper Designed for Semiactive Vibration Suppression

**J00-293** Optimal Structural Control by Substructure Synthesis

**J00-169** Passively Damped Laminated Piezoelectric Shell Structures with Integrated Electric Networks

**J00-306** Shape Control of Beams by Piezoelectric Actuators

**J00-040** Three-Dimensional Asymptotic Analysis of Multiple-Electroded Piezoelectric Laminates

**J00-309** Three-Dimensional Corotational Framework for Elasto-Plastic Analysis of Multi-Layered Composite Shells

**J00-152** Vibration Reduction in Rotor Blades Using Active Composite Box Beam

### Materials Structural Properties

**J00-100** Constitutive Equations of Composite Laminated One-Way Panels

**J00-227** Estimation of Layerwise Elastic Parameters of Stiffened Composite Plates

**J00-256** Integrated Micro/Macro Approach for Laminate Composite Analysis: Applications to Turbine Blades

**J00-307** Micromechanics-Based Predictive Model for Compressively Loaded Angle-Ply Composite Laminates

**J00-140** Size Effects in Scaled Fiber Composites Under Four-Point Flexure Loading

### Structural Composite Materials

**J00-066** Bifurcation, Limit-Point Buckling, and Dynamic Collapse of Transversely Loaded Composite Shells

**J00-100** Constitutive Equations of Composite Laminated One-Way Panels



- J00-065** Dynamic Response of Adaptive Cross-Ply Cantilevers Featuring Interlaminar Bonding Imperfections
- J00-172** Exact Bending Solution of Inhomogeneous Plates from Homogeneous Thin-Plate Deflection
- J00-101** Failure Analysis of Scarf-Patch-Repaired Carbon Fiber/Epoxy Laminates Under Compression
- J00-116** Fracture Mode Separation for Delamination in Platelike Composite Structures
- J00-142** Fusion of Wavelet Packets and Neural Network in Detection of Composites
- J00-308** Geometrically Nonlinear Shell Element for Hygrothermorheologically Simple Linear Viscoelastic Composites
- J00-086** Hemivariational Inequality Modeling of Hybrid Laminates with Unidirectional Composite Constituents
- J00-070** In-Plane Warping Effects in Thin-Walled Box Beams
- J00-256** Integrated Micro/Macro Approach for Laminated Composite Analysis: Applications to Turbine Blades
- J00-087** Interlaminar Stresses in Laminated Composite Beam-Type Structures Under Shear/Bending
- J00-307** Micromechanics-Based Predictive Model for Compressively Loaded Angle-Ply Composite Laminates
- J00-192** Novel Micromechanics-Based Woven-Fabric Composite Constitutive Model with Material Nonlinear Behavior
- J00-169** Passively Damped Laminated Piezoelectric Shell Structures with Integrated Electric Networks
- J00-267** Ply Angle Optimization of Nonuniform Composite Beams Subject to Aeroelastic Constraints
- J00-288** Postbuckling Analysis of Composite Laminated Panels
- J00-260** Postbuckling Strength of Stiffened Composite Plates with Impact Damage
- J00-199** Predictor-Corrector Approach for the Analysis of Sandwich Panels
- J00-043** Single- vs Multilayer Plate Modelings on the Basis of Reissner's Mixed Theorem
- J00-140** Size Effects in Scaled Fiber Composites Under Four-Point Flexure Loading
- J00-014** Strength Prediction of Fiber Reinforced Plastics with a Hole Under Compression-Tension
- J00-141** Thermo-Mechanical Response of Patched Plates
- J00-309** Three-Dimensional Corotational Framework for Elasto-Plastic Analysis of Multilayered Composite Shells
- J00-150** Vibration Analysis of Thick Laminated Composite Cylindrical Shells
- J00-176** Vibration of Thermally Stressed Composite Plates with and Without Cutouts
- J00-152** Vibration Reduction in Rotor Blades Using Active Composite Box Beam

### Structural Design

- J00-067** Approximations in Optimization of Damage Tolerant Structures
- J00-069** Boundary Element Analysis of Coupled Thermoelasticity with Relaxation Times in Finite Domain
- J00-294** Fracture Mechanics of Mode Separation Based on Beam Theory
- J00-070** In-Plane Warping Effects in Thin-Walled Box Beams

- J00-099** Modal Response of Trapezoidal Wing Structures Using Second-Order Shape Sensitivities
- J00-285** Optimal Design of Uncertain Systems Under Stochastic Excitation
- J00-117** Partitioned, Multilevel Response Surfaces for Modeling Complex Systems
- J00-015** Sensitivity Derivatives of Eigendata of One-Dimensional Structural Systems
- J00-231** Shape Design Sensitivity Analysis and Optimization of Elasto-Plasticity with Frictional Contact
- J00-170** Static and Vibration Analyses of General Wing Structures Using Equivalent Plate Models
- J00-138** Universal Perturbation Technique for Reanalysis of Non-Self-Adjoint Systems

### Structural Durability (Including Fatigue, Fracture, and Environmental Degradation)

- J00-289** Boundary Correction Factors for Elliptical Surface Cracks Emanating from Counter-sunk Rivet Holes
- J00-289** Boundary Correction Factors for Elliptical Surface Cracks Emanating from Counter-sunk Rivet Holes
- J00-119** Flange Delamination Prediction in Composite Structures with Ply Waviness
- J00-294** Fracture Mechanics of Mode Separation Based on Beam Theory
- J00-228** Further Modification of Bolotin Method in Vibration Analysis of Rectangular Plates
- J00-307** Micromechanics-Based Predictive Model for Compressively Loaded Angle-Ply Composite Laminates
- J00-088** Molecular Dynamics Study on Mechanical Properties and Fracture in Amorphous Metal
- J00-118** Probabilistic Fatigue Crack Growth Analyses for Critical Structural Details
- J00-310** Structural Damage Detection and Identification Using Fuzzy Logic

### Structural Dynamics and Characterization

- J00-069** Boundary Element Analysis of Coupled Thermoelasticity with Relaxation Times in Finite Domain
- J00-316** Buckling and Postbuckling of Compressible Circular Rings Under Hydrostatic Pressure
- J00-193** Damage Identification of Nonlinear Structural Systems
- J00-090** Damping Effects in Nonlinear Panel Flutter
- J00-039** Determination of Nonideal Beam Boundary Conditions: A Spectral Element Approach
- J00-315** Dispersion Relations in Piezoelectric Coupled Beams
- J00-114** Dynamic Analysis of a Spinning Timoshenko Beam by the Differential Quadrature Method
- J00-143** Dynamic Stability of a Free-Free Cylindrical Shell Under a Follower Force
- J00-229** Effects of Structural Damping and Stiffness on Impact Response of Layered Structure
- J00-168** Energy Method for Selection of Degrees of Freedom in Condensation
- J00-227** Estimation of Layerwise Elastic Parameters of Stiffened Composite Plates

- J00-228** Further Modification of Bolotin Method in Vibration Analysis of Rectangular Plates
- J00-230** Improved Electrorheological-Fluid Variable Damper Designed for Semiactive Vibration Suppression
- J00-286** Inherently Incomplete Finite Element Model and Its Effects on Model Updating
- J00-013** Investigation of Equivalent System Modeling and Dynamic Characteristics Using Reduced Models
- J00-121** Method for Treating Discretization Error in Nondeterministic Analysis
- J00-171** Modeling Hail Ice Impacts and Predicting Impact Damage Initiation in Composite Structures
- J00-120** Reduced-Order Design-Oriented Stress Analysis Using Combined Direct and Adjoint Solutions
- J00-089** Sensitivities and Linear Stability Analysis Around a Double-Zero Eigenvalue
- J00-015** Sensitivity Derivatives of Eigendata of One-Dimensional Structural Systems
- J00-304** Simulation of Deployment Dynamics of Inflatable Structures
- J00-170** Static and Vibration Analyses of General Wing Structures Using Equivalent Plate Models
- J00-310** Structural Damage Detection and Identification Using Fuzzy Logic
- J00-194** Unconditionally Stable Time-Step-Integration Algorithms Based on Hamilton's Principle
- J00-138** Universal Perturbation Technique for Reanalysis of Non-Self-Adjoint Systems
- J00-139** Use of Substructural Transmission Zeros for Structural Health Monitoring
- J00-305** Vibration of Dynamic Systems Under Cyclostationary Excitations
- J00-150** Vibration Analysis of Thick Laminated Composite Cylindrical Shells
- J00-049** Vibration of Thermally Stressed Pretwisted Cantilever Composite Plates

### Structural Finite Elements

- J00-289** Boundary Correction Factors for Elliptical Surface Cracks Emanating from Counter-sunk Rivet Holes
- J00-016** Combined Finite Element Analysis and Statistical Energy Analysis in Mechanical Intensity Calculations
- J00-098** Correcting System Matrices Using the Orthogonality Conditions of Distinct Measured Modes
- J00-090** Damping Effects in Nonlinear Panel Flutter
- J00-143** Dynamic Stability of a Free-Free Cylindrical Shell Under a Follower Force
- J00-144** Dynamic Superelement Modeling Method for Compound Dynamic Systems
- J00-168** Energy Method for Selection of Degrees of Freedom in Condensation
- J00-101** Failure Analysis of Scarf-Patch-Repaired Carbon Fiber/Epoxy Laminates Under Compression
- J00-308** Geometrically Nonlinear Shell Element for Hygrothermorheologically Simple Linear Viscoelastic Composites
- J00-068** Higher-Order Finite Element for Sandwich Plates
- J00-286** Inherently Incomplete Finite Element Model and Its Effects on Model Updating
- J00-121** Method for Treating Discretization Error in Nondeterministic Analysis



**J00-171** Modeling Hail Ice Impacts and Predicting Impact Damage Initiation in Composite Structures

**J00-017** Multibody Implementation of Finite Volume C0 Beams

**J00-290** Nonlinear Finite Element Analysis of Machining and Sheet Metal Forming

**J00-192** Novel Micromechanics-Based Woven-Fabric Composite Constitutive Model with Material Nonlinear Behavior

**J00-169** Passively Damped Laminated Piezoelectric Shell Structures with Integrated Electric Networks

**J00-288** Postbuckling Analysis of Composite Laminated Panels

**J00-260** Postbuckling Strength of Stiffened Composite Plates with Impact Damage

**J00-199** Predictor-Corrector Approach for the Analysis of Sandwich Panels

**J00-018** Structural Modeling of Parachute Dynamics

**J00-309** Three-Dimensional Corotational Framework for Elasto-Plastic Analysis of Multilayered Composite Shells

**J00-194** Unconditionally Stable Time-Step-Integration Algorithms Based on Hamilton's Principle

### Structural Modeling

**J00-066** Bifurcation, Limit-Point Buckling, and Dynamic Collapse of Transversely Loaded Composite Shells

**J00-016** Combined Finite Element Analysis and Statistical Energy Analysis in Mechanical Intensity Calculations

**J00-098** Correcting System Matrices Using the Orthogonality Conditions of Distinct Measured Modes

**J00-039** Determination of Nonideal Beam Boundary Conditions: A Spectral Element Approach

**J00-144** Dynamic Superelement Modeling Method for Compound Dynamic Systems

**J00-172** Exact Bending Solution of Inhomogeneous Plates from Homogeneous Thin-Plate Deflection

**J00-228** Further Modification of Bolotin Method in Vibration Analysis of Rectangular Plates

**J00-070** In-Plane Warping Effects in Thin-Walled Box Beams

**J00-099** Modal Response of Trapezoidal Wing Structures Using Second-Order Shape Sensitivities

**J00-171** Modeling Hail Ice Impacts and Predicting Impact Damage Initiation in Composite Structures

**J00-017** Multibody Implementation of Finite Volume C0 Beams

**J00-192** Novel Micromechanics-Based Woven-Fabric Composite Constitutive Model with Material Nonlinear Behavior

**J00-293** Optimal Structural Control by Substructure Synthesis

**J00-043** Single- vs Multilayer Plate Modelings on the Basis of Reissner's Mixed Theorem

**J00-170** Static and Vibration Analyses of General Wing Structures Using Equivalent Plate Models

### Structural Optimization

**J00-145** Ability of Objective Functions to Generate Points on Nonconvex Pareto Frontiers

**J00-022** Aerodynamic Design Using Neural Networks

**J00-021** Bilevel Integrated System Synthesis

**J00-191** Calculating Derivatives of Repeated and Nonrepeated Eigenvalues Without Explicit Use of Eigenvectors

**J00-314** Derivatives of Complex Eigenvectors using Nelson's Method

**J00-229** Effects of Structural Damping and Stiffness on Impact Response of Layered Structure

**J00-284** Engineering Design Optimization Using Interior-Point Algorithms

**J00-123** Extended Kirsch Combined Method for Eigenvalue Reanalysis

**J00-020** From Dubious Construction of Objective Functions to the Application of Physical Programming

**J00-261** Improved Simulated Annealing Search for Structural Optimization

**J00-122** Interactive Physical Programming: Tradeoff Analysis and Decision Making in Multicriteria Optimization

**J00-196** Methodology for Managing the Effect of Uncertainty in Simulation-Based Design

**J00-285** Optimal Design of Uncertain Systems Under Stochastic Excitation

**J00-195** Optimal Wing Planform Design for Aeroelastic Control

**J00-267** Ply Angle Optimization of Nonuniform Composite Beams Subject to Aeroelastic Constraints

**J00-019** Redesigning the Dynamics of Structural Systems

**J00-120** Reduced-Order Design-Oriented Stress Analysis Using Combined Direct and Adjoint Solutions

**J00-311** Response Surface Approximations: Noise, Error Repair, and Modeling Errors

**J00-015** Sensitivity Derivatives of Eigendata of One-Dimensional Structural Systems

**J00-231** Shape Design Sensitivity Analysis and Optimization of Elasto-Plasticity with Frictional Contact

### Structural Stability

**J00-066** Bifurcation, Limit-Point Buckling, and Dynamic Collapse of Transversely Loaded Composite Shells

**J00-316** Buckling and Postbuckling of Compressible Circular Rings Under Hydrostatic Pressure

**J00-143** Dynamic Stability of a Free-Free Cylindrical Shell Under a Follower Force

**J00-044** Dynamic Stability of Rectangular Plates Subjected to Pulsating Follower Forces

**J00-308** Geometrically Nonlinear Shell Element for Hygrothermorheologically Simple Linear Viscoelastic Composites

**J00-288** Postbuckling Analysis of Composite Laminated Panels

**J00-260** Postbuckling Strength of Stiffened Composite Plates with Impact Damage

**J00-268** Stability of Orthotropic Plates on a Kerr Foundation

**J00-241** Thermal Buckling of Axially Precompressed Cylindrical Shells Irradiated by Laser Beam

**J00-141** Thermo-Mechanical Response of Patched Plates

### Thermal Effects

**J00-069** Boundary Element Analysis of Coupled Thermoelasticity with Relaxation Times in Finite Domain

**J00-199** Predictor-Corrector Approach for the Analysis of Sandwich Panels

**J00-045** Theory of Cylindrical Sandwich Shells with Dissimilar Facings Subjected to Thermo-mechanical Loads

**J00-141** Thermo-Mechanical Response of Patched Plates

### Thermophysics and Heat Transfer

#### Ablation, Pyrolysis, Thermal Decomposition, and Degradation

**J00-124** Unsteady Lifting Surface Theory in Sonic Flow: The Problem Revisited

#### Aerothermodynamics/Thermal Protection

**J00-301** High-Enthalpy Expansion Tube Experiments with Gas Injection

#### Computational Heat Transfer

**J00-313** Smoothing of the Multiple One-Dimensional Adaptive Grid Procedure

#### Nonintrusive Diagnostics

**J00-239** Temperature Measurements in a Hypersonic Boundary Layer Using Planar Laser-Induced Fluorescence

#### Radiation in Participating Media

**J00-312** Ultraviolet Radiation Modeling from High-Altitude Plumes and Comparison with Mir Data

#### Thermochemistry and Chemical Kinetics

**J98-262** Comment on "Limitations of a Reduced Model for the Simulation of Hydrogen/Air Combustion"



# Author Index

- Abarbanel, Saul, J00-271  
 Abdel-Motagaly, K., J00-205  
 Abeele, David Vanden, J00-030  
 Accorsi, Michael, J00-018  
 Achkire, Y., J00-064  
 Adhikari, Sondipon, J00-314  
 Agarwal, R., J00-290  
 Agte, Jeremy S., J00-021  
 Ahmed, N. A., J00-237  
 Ahn, Jung Hyun, J00-307  
 Aithal, S., J00-251  
 Allen, M. G., J00-167  
 Alvin, Kenneth F., J00-121  
 Archer, R. D., J00-237  
 Arnette, Stephen A., J00-269  
 Arya, S. Pal, J00-037, J00-082  
 Atassi, Hafiz M., J00-155, J00-154  
 Avila, Antonio F., J00-256  
 Badcock, K. J., J00-035  
 Bahadori, M. Y., J00-164  
 Bailly, Christophe, J00-002, J00-242, J00-296  
 Bakos, Robert J., J00-222  
 Bakuckas, Jr., John G., J00-289  
 Balakrishnan, P., J00-252  
 Ballmann, J., J00-029  
 Banerjee, J. Ranjan, J00-267  
 Barakos, G., J00-060  
 Barberis, Didier, J00-108  
 Batra, R. C., J00-040, J00-042, J00-115  
 Benay, Richard, J00-201  
 Benazzouz, Tewfik, J00-009  
 Benjamin, M. A., J00-059, J00-163  
 Benney, Richard, J00-018  
 Berkman, Mert E., J00-275  
 Berkovits, Avraham, J00-228  
 Berman, Alex, J00-286  
 Bernitsas, Michael M., J00-019  
 Beutner, T. J., J00-136  
 Bhagwat, Mahendra J., J00-038  
 Bigelow, Catherine A., J00-289  
 Birman, Victor, J00-045  
 Bishop, Alexis I., J00-223, J00-301  
 Bismarck-Nasr, Maher N., J00-090  
 Blaisdell, G. A., J00-091  
 Blando, Guillermo D., J00-120  
 Blazek, Jiri, J00-280  
 Bodstein, Gustavo C. R., J00-149  
 Bogey, Christophe, J00-296  
 Bones, Carlos Alberto, J00-090  
 Bossens, F., J00-064  
 Bottasso, Carlo L., J00-006  
 Bottega, W. J., J00-141  
 Bouchardy, P., J00-221  
 Bourdon, C. J., J00-254  
 Bowersox, Rodney D. W., J00-182, J00-243  
 Brentner, Kenneth S., J00-207  
 Brown, Richard E., J00-007  
 Burner, A. W., J00-130  
 Burnley, V. S., J00-188  
 Buter, Thomas A., J00-182  
 Butler, Richard, J00-267  
 Candel, Sébastien, J00-051  
 Carrera, Erasmo, J00-043  
 Carroll, Bruce F., J00-234  
 Carter, Campbell D., J00-136, J00-269  
 Cattafesta, III, L. N., J00-130  
 Cha, Philip D., J00-098  
 Cha, Soyoung Stephen, J00-063  
 Chakraborty, S., J00-227  
 Chandler, G. V., J00-303  
 Chang, Jo Won, J00-146  
 Chattopadhyay, Aditi, J00-152, J00-195, J00-258  
 Chen, J.-H., J00-081, J00-134  
 Chen, Jay-Chung, J00-193  
 Chen, Jiun S., J00-231  
 Chen, P. C., J00-203  
 Chen, R. F., J00-299  
 Chen, Su Huan, J00-123  
 Chen, Wei, J00-196  
 Cheng, Zhen-Qiang, J00-040, J00-042, J00-172  
 Chesnakas, Christopher J., J00-034  
 Chiang, Dar-Yun, J00-261  
 Chiu, Thiem, J00-240  
 Cho, Kyungseok, J00-147  
 Cho, Sung Kwon, J00-057  
 Choi, Byungwi, J00-092  
 Choi, Haechon, J00-057, J00-092  
 Choi, Jeong-Yeol, J00-159, J00-160  
 Choi, Kyung K., J00-231  
 Choi, Siu-Tong, J00-114  
 Choi, Young-Jae, J00-168  
 Choo, Youn-Sun, J00-044  
 Chopra, Inderjit, J00-151  
 Chou, Yu-Tuan, J00-114  
 Choudhari, Meelan, J00-275  
 Chun, Heoung-Jae, J00-259  
 Cipolla, K., J00-245  
 Clark, Larry T., J00-179  
 Cole, Gary L., J00-179  
 Collicott, Steven H., J00-084  
 Colonus, T., J00-046  
 Comte, P., J00-181  
 Conlisk, A. T., J00-162  
 Contini, V., J00-251  
 Cribbs, Richard C., J00-240  
 Crouch, J. D., J00-027  
 Culick, F. E. C., J00-188  
 Dadone, Andrea, J00-055  
 Dahl, Milo D., J00-074  
 Damle, S., J00-270  
 Danehy, P. M., J00-239  
 Dang, T., J00-270  
 Daniel, Isaac M., J00-259  
 Davidson, Lars, J00-161  
 Davies, A. W., J00-241  
 Dawe, D. J., J00-288  
 Degrez, Gérard, J00-030  
 Détery, Jean, J00-108  
 Delisi, Donald P., J00-255  
 Desabrais, K. J., J00-292  
 Di Egidio, A., J00-089  
 Di Sciuvia, M., J00-065  
 Dick, E., J00-279  
 Djambazov, G. S., J00-001  
 Do, Ian H.P., J00-302  
 Domingo, Pascale, J00-009  
 Doty, Michael J., J00-250  
 Dowell, Earl H., J00-206, J00-248  
 Dowling, A. P., J00-025  
 Drakes, J. A., J00-312  
 Drela, Mark, J00-054  
 Drikakis, D., J00-060  
 Drouillard, T., J00-220  
 Du, Xiaoping, J00-196  
 Duan, B., J00-205  
 Dupere, I. D. J., J00-025  
 Duranti, S., J00-148  
 Durmus, Gökhan, J00-265  
 Dussauge, Jean-Paul, J00-218  
 Dutton, J. C., J00-061, J00-166, J00-254  
 Edwards, Jack R., J00-102, J00-093, J00-215  
 Ehrlich, Daniel A., J00-036  
 Ekaterinaris, John A., J00-212  
 Ellington, C. P., J00-178  
 Elliott, Gregory S., J00-136, J00-269  
 Emanuel, G., J00-094  
 Erdos, John I., J00-222  
 Erlebacher, G., J00-135  
 Eslami, Mohamad Reza, J00-069  
 Evrard, Thomas, J00-267  
 Faeth, G. M., J00-081, J00-134  
 Fanneløp, Torstein K., J00-213  
 Ferris, John B., J00-019  
 Filiou, C., J00-014  
 Fisher, M. J., J00-024  
 Fleeter, Sanford, J00-036  
 Floryan, J. M., J00-048  
 Frankel, Steven H., J00-273  
 Franklin, Randall K., J00-215  
 Freund, Jonathan B., J00-046, J00-249, J00-272  
 Friedmann, Peretz P., J00-240  
 Friswell, Michael I., J00-191, J00-314  
 Frostig, Yeoshua, J00-100, J00-287  
 Fu, S., J00-233  
 Fuciarelli, David, J00-156  
 Fuller, Raymond P., J00-008  
 Fung, K.-Y., J00-003  
 Fung, T. C., J00-194  
 Fureby, C., J00-058  
 Gai, S. L., J00-109  
 Gaitonde, Datta V., J00-281  
 Gandikota, V. A., J00-290  
 Gangadharan, Sathya, J00-305  
 Garcelon, John H., J00-067  
 Gatski, Thomas B., J00-187  
 Gatto, A., J00-237  
 Ge, Yi, J00-063  
 Ghiringhelli, Gian Luca, J00-017  
 Ghosh, Siddharth K., J00-268  
 Gimelshein, S. F., J00-312  
 Girimaji, Sharath S., J00-083  
 Goh, E. K. R., J00-050  
 Golubev, Vladimir V., J00-155, J00-154  
 Gong, S. W., J00-229  
 Goody, Michael C., J00-034, J00-244  
 Gore, Jay P., J00-165  
 Gosman, A. D., J00-058  
 Grace, Sheryl M., J00-026  
 Grant, John R., J00-106  
 Gregory, Don A., J00-096  
 Gribben, B. J., J00-035  
 Grisch, F., J00-221  
 Grossman, Bernard, J00-055  
 Gu, Haozhong, J00-152, J00-258  
 Guézengar, Dominique, J00-218  
 Guillard, Hervé, J00-218  
 Gülhan, A., J00-221  
 Gullman-Strand, Johan, J00-234  
 Guo, Y., J00-233  
 Gupta, Anurag, J00-062  
 Gursul, Ismet, J00-127  
 Gutmark, Ephraim, J00-137  
 Gyarmathy, George, J00-153  
 Haase, Werner, J00-276  
 Hackenberg, P., J00-047  
 Haftka, Raphael T., J00-067, J00-202, J00-311  
 Hall, Kenneth C., J00-248  
 Hammerand, Daniel C., J00-308  
 Han, Donghee, J00-217  
 Han, Jongil, J00-037, J00-082  
 Hansen, J. S., J00-068  
 Haselbacher, Andreas, J00-280  
 Haworth, Daniel, J00-056  
 Hegde, U., J00-164  
 Hermanson, James C., J00-282  
 Hillier, R., J00-239  
 Hirata, Miguel H., J00-149  
 Hixon, R., J00-211  
 Ho, T.-L., J00-094  
 Hoeijmakers, H. W. M., J00-110  
 Hong, Chang-Sun, J00-260  
 Hornung, Hans G., J00-200  
 Houwing, A. F. P., J00-235  
 Hu, F. Z., J00-101  
 Huang, Rong F., J00-011  
 Huddleston, John V., J00-316  
 Hughes, Steven W., J00-267  
 Hussaini, M. Y., J00-076, J00-135  
 Huyer, Stephen A., J00-106



- Icardi, U., J00-065  
 Imregun, M., J00-128  
 Inderbitzin, Andreas, J00-153  
 Ivanov, M. S., J00-312  
 Jackson, Karen E., J00-140  
 Jeng, S. M., J00-059, J00-163  
 Jeng, Yih Nen, J00-028, J00-313  
 Jensen, Hector A., J00-285  
 Jeon, Seong Min, J00-113  
 Jeung, In-Seuck, J00-159, J00-160  
 Jha, Akhilesh, J00-305  
 Jiang, Yiwei, J00-192  
 Jiménez, Javier, J00-077  
 Jing, Xiaodong, J00-209, J00-208  
 Jog, M. A., J00-059, J00-163  
 Johansson, Marcus C., J00-291  
 Johari, H., J00-292  
 Johnson, David P., J00-140  
 Joly, V., J00-221  
 Josefson, Lennart B., J00-016  
 Ju, Hongbin, J00-003  
 Juve, Daniel, J00-002, J00-242, J00-296  
 Kailasanath, K., J00-225  
 Kaji, Shojiro, J00-204  
 Kapania, Rakesh K., J00-170, J00-099, J00-308  
 Karabadzah, G. F., J00-312  
 Karlsson, A. M., J00-141  
 Karpel, Moti, J00-262  
 Kastrinakis, E. G., J00-033  
 Kavsaoglu, Mehmet Serif, J00-265  
 Kedward, Keith T., J00-171  
 Keith, W., J00-245  
 Kellas, Sotiris, J00-140  
 Keshun, Deng, J00-241  
 Kholodar, Denis, J00-206  
 Khorrami, Mehdi R., J00-275  
 Kim, Chang Sung, J00-183  
 Kim, Chongam, J00-183  
 Kim, Chun-Gon, J00-260  
 Kim, Hyonny, J00-171  
 Kim, J.-H., J00-126  
 Kim, Jae Wook, J00-274  
 Kim, Ji-Hwan, J00-044, J00-143  
 Kim, Joohong, J00-039  
 Kim, Ki-Ook, J00-168  
 Kim, Nam H., J00-231  
 Kim, Yong Hyup, J00-199  
 Kim, Youdan, J00-195  
 Kimmel, Roger L., J00-032, J00-232  
 Kind, R. J., J00-129  
 King, Galen B., J00-165  
 Kirkendall, Kevin A., J00-008  
 Kitagawa, Hiroshi, J00-088  
 Kitipornchai, S., J00-172  
 Kloker, Markus J., J00-184  
 Knight, D., J00-283  
 Knoell, Jens, J00-291  
 Ko, Jeonghwan, J00-297  
 Ko, N. W. M., J00-010  
 Koch, Patrick N., J00-117  
 Koch, U., J00-221  
 Kodiyalam, Srinivas, J00-197  
 Kok, Johan C., J00-173  
 Kolár, Václav, J00-236  
 Komori, Satoru, J00-190  
 Kong, Cheol-Won, J00-260  
 Konrad, W., J00-283  
 Koratkar, Nikhil Ashok, J00-151  
 Koutsavdis, E. K., J00-091  
 Kroo, I. M., J00-257  
 Kuan, K. B., J00-298  
 Kuhlman, John, J00-112  
 Kuo, C. P., J00-304  
 Kuo, Wei Jin, J00-028  
 Kurbatskii, Konstantin A., J00-180  
 Kurdila, Andrew J., J00-297  
 Kurosaka, M., J00-023, J00-024  
 Kwon, Jang Hyuk, J00-031  
 Lafon, Philippe, J00-051  
 Lagace, Paul A., J00-066  
 Lagoudas, D., J00-041  
 Lai, C.-H., J00-001  
 Lai, Yong G., J00-300  
 Lam, K. K., J00-010  
 Lam, K. Y., J00-150, J00-229  
 Lambert, Caroline, J00-127  
 Lan, C. Edward, J00-177  
 Larbi, Noureddine, J00-097  
 Lardies, Joseph, J00-097  
 Latin, Robert M., J00-243  
 Laurendeau, Normand M., J00-165  
 Lawrence, Scott L., J00-246  
 Lee, A. S., J00-050  
 Lee, Duck Joo, J00-274  
 Lee, Han W., J00-011  
 Lee, In, J00-013, J00-113  
 Lee, J. A., J00-162  
 Lee, Jae-Woo, J00-005  
 Lee, Jeonghan, J00-147  
 Lee, Soogab, J00-147  
 Lee, Tae-Woo, J00-266  
 Lee, Usik, J00-039  
 Lee, Yan-Nian, J00-177  
 Lee, Zong-Shiaw, J00-313  
 Leishman, J. Gordon, J00-038  
 Lele, S. K., J00-272  
 Lempert, Walter R., J00-085  
 Lenormand, E., J00-181  
 Leonard, John, J00-018  
 Leung, R. C. K., J00-010  
 Levin, D. A., J00-312  
 Levy, Yuval, J00-262  
 Li, Jian, J00-119  
 Liao, Y., J00-059  
 Librescu, L., J00-065  
 Lim, T. T., J00-050  
 Lin, C. A., J00-298  
 Lin, San-Yih, J00-313  
 Lin, Yu-An, J00-015  
 Lin, Yuh-Lang, J00-037, J00-082  
 Linne, M., J00-220  
 Liou, Meng-Sing, J00-215  
 Littleton, Bradley N., J00-301  
 Liu, J. K., J00-138  
 Liu, Qiang, J00-152  
 Liu, Tianshu, J00-130  
 Liu, X., J00-132  
 Liu, Youhua, J00-170, J00-099  
 Livingston, T., J00-133  
 Livne, Eli, J00-120  
 Lockard, David P., J00-207  
 Long, Lyle N., J00-105  
 Longatte, Elisabeth, J00-051  
 Lou, Michael, J00-304  
 Lu, Frank K., J00-222  
 Lu, QingZheng, J00-012  
 Lua, K. B., J00-050  
 Lübcke, H., J00-233  
 Lucht, Robert P., J00-061  
 Luker, Joel J., J00-182  
 Luo, S. C., J00-050  
 Luongo, A., J00-089  
 Lyrintzis, A. S., J00-091  
 Lyttle, Ian, J00-156  
 Madavan, Nateri K., J00-022  
 Madhavan, V., J00-290  
 Madsen, Jens I., J00-202  
 Maestrello, Lucio, J00-131  
 Magruder, T. D., J00-303  
 Mallinson, S. G., J00-239  
 Manoha, Eric, J00-073  
 Mantegazza, Paolo, J00-017  
 Marmignon, C., J00-221  
 Marshall, David, J00-062  
 Masarati, Pierangelo, J00-017  
 Mason, W. H., J00-005  
 Masud, Arif, J00-309  
 Masuya, Goro, J00-253  
 Maucher, Ulrich, J00-186  
 Mavriplis, Dimitri J., J00-277  
 Mavris, Dimitri, J00-117  
 McCarthy, P., J00-220  
 McIntyre, Timothy J., J00-223, J00-301  
 McLaughlin, Dennis K., J00-250  
 Medd, Adam J., J00-263  
 Mei, C., J00-205  
 Melton, Lynn A., J00-012  
 Mengali, Giovanni, J00-238  
 Merchant, Ali, J00-054  
 Merci, B., J00-279  
 Merriman, S., J00-251  
 Messac, Achille, J00-020, J00-122, J00-145  
 Milazzo, Alberto, J00-087  
 Miles, Richard B., J00-085  
 Miller, James H., J00-246  
 Miller, M. F., J00-167  
 Minesugi, Kenji, J00-230  
 Mistakidis, Euripidis S., J00-086  
 Mistree, Farrokh, J00-117  
 Mitchell, Anthony M., J00-108  
 Mittal, Sanjay, J00-125  
 Mizuno, H., J00-235  
 Moh, Jau-Sung, J00-261  
 Mohd-Yusof, Jamaludin, J00-056  
 Moin, Parviz, J00-249, J00-272, J00-295  
 Molton, Pascal, J00-108  
 Mongeau, Luc, J00-273  
 Morgan, Richard G., J00-301  
 Morrison, Joseph H., J00-187  
 Morton, John, J00-140  
 Mosedale, Andrew D., J00-136, J00-269  
 Moser, Robert D., J00-077  
 Mottura, Lorenzo, J00-247  
 Mukhopadhyay, Madhujit, J00-227  
 Mulkay, E. L., J00-284  
 Müller, Bernhard, J00-213  
 Mungal, M. G., J00-217  
 Murakami, Erina, J00-080  
 Murthy, V. R., J00-015  
 Mustto, Angelo A., J00-149  
 Nagata, Kouji, J00-190  
 Nakahashi, Kazuhiro, J00-278  
 Nakatani, Akihiro, J00-088  
 Nakatani, Keiko, J00-088  
 Nam, Changho, J00-195  
 Natarajan, R., J00-252  
 Naylor, Steve, J00-112  
 Nejad, Abdollah S., J00-008  
 Nelson, H. F., J00-095  
 Nelson, P. A., J00-004, J00-047  
 Nelson, R. C., J00-132  
 Nemec, M., J00-053  
 Ng, L. L., J00-027  
 Ng, T. Y., J00-150  
 Ngoi, Bryan, J00-306  
 Nicola, Carlo de, J00-185  
 Nikolaidis, Efstratios, J00-305  
 Nonaka, S., J00-235  
 Nordström, Jan, J00-271  
 Novak, F., J00-111  
 Nychas, S. G., J00-033  
 O'Byrne, S. B., J00-239  
 O'Hara, Steven W., J00-015  
 Obata, Shigeo, J00-282  
 Oh, Hyun-Ung, J00-230  
 Ohba, Shinji, J00-226  
 Olejniczak, J., J00-303  
 Onoda, Junjiro, J00-230  
 Orlandi, Paolo, J00-056  
 Orozco, V., J00-217  
 Oskoei, S., J00-068  
 Özyörük, Yusuf, J00-105  
 Pajayakrit, P., J00-129  
 Pakhomov, Andrew V., J00-096  
 Paliwal, D. N., J00-268  
 Palko, C. W., J00-166  
 Palm, P., J00-251  
 Palma, P. C., J00-239  
 Pandey, R. K., J00-294  
 Paolone, A., J00-089  
 Papamoschou, Dimitri, J00-074, J00-080  
 Papila, Melih, J00-311  
 Park, Jin Woo, J00-199  
 Park, K. C., J00-139  
 Park, Seung O, J00-146  
 Park, Si-Hyoung, J00-143  
 Paschereit, Christian Oliver, J00-137  
 Pateau, V., J00-014  
 Patel, V. C., J00-079, J00-078



- Paynter, Gerald C., J00-179  
 Peng, Shia-Hui, J00-161  
 Peraire, Jaime, J00-054  
 Pericleous, K. A., J00-001  
 Pevzner, Pavel, J00-228  
 Phuoc, L. Ta, J00-181  
 Pieracci, Andrea, J00-238  
 Pinto, Fábio H. L., J00-124  
 Pittaluga, F., J00-148  
 Plönjes, E., J00-251  
 Poggie, Jonathan, J00-032, J00-189, J00-232  
 Prells, Uwe, J00-191  
 Preumont, A., J00-064  
 Proctor, Fred H., J00-037, J00-082  
 Pruett, C. David, J00-216  
 Puoti, Vittorio, J00-185  
 Qian, Wu, J00-150  
 Qiu, X., J00-270  
 Qu, Zu-Qing, J00-144  
 Quek, S. T., J00-315  
 Radeztsky, R. H., J00-130  
 Rahman, Anisur, J00-289  
 Rahman, M. M., J00-175  
 Rai, Man Mohan, J00-022  
 Rand, Omri, J00-070  
 Rao, S. S., J00-284, J00-310, J00-293  
 Rathakrishnan, E., J00-264  
 Raveh, Daniella E., J00-262  
 Rediniotis, Othon K., J00-297, J00-041  
 Reed, Helen, J00-156  
 Reich, Gregory W., J00-139  
 Renaud, John E., J00-122, J00-145  
 Renfro, Michael W., J00-165  
 Rhee, Gwang Hoon, J00-071  
 Rho, Oh Hyun, J00-183  
 Richards, B. E., J00-035  
 Riemsdagh, K., J00-279  
 Riggins, David W., J00-095  
 Rist, Ulrich, J00-186  
 Robins, Robert E., J00-255  
 Roth, J. Reece, J00-157  
 Roy, Christopher J., J00-102  
 Rubinsztajn-Dunlop, Halina, J00-223  
 Ruffin, Stephen M., J00-062  
 Rumsey, Christopher L., J00-187  
 Rung, T., J00-233  
 Ruyten, Wim, J00-224  
 Ryaben'kii, Victor, J00-271  
 Sagaut, Pierre, J00-073, J00-181, J00-242  
 Sakman, A. T., J00-163  
 Salama, Moktar, J00-304  
 Samimy, M., J00-072, J00-126  
 Sandusky, Jr., Robert R., J00-021  
 Sankar, Lakshmi N., J00-052  
 Santiago, Juan G., J00-061  
 Saravanos, Dimitris A., J00-169  
 Sarkar, S., J00-214  
 Sarpkaya, T., J00-111  
 Sasoh, Akihiro, J00-223, J00-226, J00-301  
 Savory, Eric, J00-236  
 Sawyer, James P., J00-310  
 Saxena, P., J00-125  
 Saxer, André P., J00-153  
 Saxer-Felici, Hélène M., J00-153  
 Sayma, A. I., J00-128  
 Sbardella, L., J00-128  
 Schindler, M., J00-133  
 Schmisser, J. D., J00-084  
 Schneider, Steven P., J00-084  
 Scholtysik, Martin, J00-213  
 Schowalter, David G., J00-037  
 Schulten, Johan B. H. M., J00-210  
 Schwoerke, Stephen N., J00-032  
 Scotti, Stephen J., J00-067  
 Segal, C., J00-133  
 Seiner, J. M., J00-076  
 Selvam, R. Panneer, J00-144  
 Sepulveda, Abdon E., J00-285  
 Seror, Christelle, J00-242  
 Serval, Patrick, J00-201  
 Sharov, Dmitri, J00-278  
 Shebalin, John V., J00-219  
 Sheinman, Izhak, J00-100  
 Shen, Hao, J00-104  
 Shephard, Mark S., J00-006  
 Sherman, Daniel M., J00-157  
 Shi, Xi-Zhi, J00-142  
 Shin, Jai-Yoon, J00-259  
 Shin, Young-Sug, J00-013  
 Shur, Michael L., J00-107  
 Shyy, Wei, J00-202  
 Sideridis, G. A., J00-033  
 Siikonen, T., J00-175  
 Simites, George J., J00-045  
 Simpson, Roger L., J00-034, J00-244  
 Singer, Bart A., J00-207  
 Sinha, K., J00-303  
 Sirviente, A. I., J00-079, J00-078  
 Sivaselvan, M. V., J00-316  
 Smits, A. J., J00-283, J00-303  
 Snyder, Deryl O., J00-198  
 Sobieski, I. P., J00-257  
 Sobieszczanski-Sobieski, Jaroslaw, J00-021, J00-197  
 Sokolinsky, V., J00-287  
 Soutis, C., J00-014, J00-101  
 Soviero, Paulo A. O., J00-124  
 Spalart, Philippe R., J00-107  
 Spall, Robert E., J00-198  
 Srigrarom, S., J00-023, J00-024  
 Srinivasan, K., J00-264  
 Stanley, S. A., J00-214  
 Stavroulakis, Georgios E., J00-086  
 Steelant, J., J00-279  
 Stein, Jeffrey L., J00-019  
 Stein, Keith, J00-018  
 Stemmer, Christian, J00-184  
 Stock, Hans W., J00-276  
 Stocker, D. P., J00-164  
 Strelets, Michael K., J00-107  
 Sudani, Norikazu, J00-200  
 Sugiyama, Yoshihiko, J00-088  
 Sun, C. T., J00-116  
 Sun, Xiaofeng, J00-209, J00-208, J00-204  
 Sunada, S., J00-178  
 Sunar, M., J00-293  
 Sundararaj, Glynn J., J00-122, J00-145  
 Sundararajan, T., J00-252  
 Sung, Chun-ho, J00-031  
 Sung, Hyung Jin, J00-071  
 Surace, Giuseppe, J00-103  
 Szumbarski, J. J., J00-048  
 Tabiei, Ala, J00-192  
 Tabor, G., J00-058  
 Tadghighi, Hormaz, J00-052  
 Takayama, Kazuyoshi, J00-226, J00-235  
 Takita, Kenichi, J00-253  
 Tallapragada, BhanuPrakash, J00-003  
 Tam, Christopher K. W., J00-075, J00-104, J00-180  
 Tan, Paul W., J00-289  
 Tang, Deman, J00-206  
 Tannehill, John C., J00-246  
 Tappeta, Ravindra V., J00-122, J00-145  
 Tatineni, Mahidhar, J00-174  
 Taulbee, Dale B., J00-291  
 Teh, S. L., J00-109  
 Tehrani, Parissa Hosseini, J00-069  
 Tenek, Lazarus, J00-049  
 Tenek, Lazarus Teneketzis, J00-1767  
 Tham, Choon L., J00-309  
 Thiele, F., J00-233  
 Thomas, Ambelyn M., J00-223  
 Thomas, F. O., J00-132  
 Thomas, James L., J00-093  
 Thomas, Jeffrey P., J00-248  
 Togashi, Fumiya, J00-278  
 Tognaccini, Renato, J00-185  
 Toy, Norman, J00-236  
 Travin, Andrey K., J00-107  
 Troff, Bruno, J00-073  
 Tsynkov, Semyon, J00-271  
 Tutty, O. R., J00-047  
 Udrescu, Radu, J00-103  
 Upschulte, B. L., J00-167  
 Vahdati, M., J00-128  
 Valiferdowski, Bahram, J00-200  
 Valorani, Mauro, J00-055  
 van Noordenburg, M. B. H., J00-110  
 VanLerberghe, Wayne M., J00-061  
 Vatsa, Veer, J00-271  
 Vel, Senthil S., J00-115  
 Verzicco, Roberto, J00-056  
 Vierendeels, J., J00-279  
 Vigeveno, Luigi, J00-247  
 Vinogradov, V. A., J00-133  
 Visbal, Miguel R., J00-281  
 Waas, Anthony M., J00-307  
 Wagner, Siegfried, J00-186, J00-184  
 Wallin, Stefan, J00-083  
 Wang, C., J00-233  
 Wang, G. S., J00-118  
 Wang, Gang, J00-052  
 Wang, J., J00-116  
 Wang, Meng, J00-295  
 Wang, Q., J00-315  
 Wang, S., J00-288  
 Wang, Yunliang, J00-190  
 Wang, Z. J., J00-299  
 Wardle, Brian L., J00-066  
 Webb, G., J00-041  
 Weisenstein, Wolfgang, J00-137  
 Weller, H. G., J00-058  
 Weller, Tanchum, J00-228  
 Wernet, M. P., J00-072  
 Wilkinson, Stephen P., J00-157  
 Williams, F. W., J00-241  
 Wilson, Anders M., J00-016  
 Wilson, Donald R., J00-222  
 Wilson, L., J00-041  
 Wong, Lai-Ah, J00-193  
 Wood, Trevor H., J00-026  
 Woodruff, S. L., J00-076  
 Wright, M. C. M., J00-004  
 Wright, M. J., J00-303  
 Wu, J.-S., J00-081  
 Wu, Jiunn-Der, J00-114  
 Wu, Pei-Kuan, J00-008  
 Wu, Pingfan, J00-085  
 Wu, Yao-Jun, J00-142  
 Yamaleev, N. K., J00-029  
 Yang, Kyung-Soo, J00-158  
 Yang, Lien C., J00-302  
 Yang, Shengyuan, J00-306  
 Yang, Xiao Wei, J00-123  
 Yang, Z., J00-116  
 Yano, R., J00-251  
 Yi, Witao, J00-192  
 Yokota, Jeffrey W., J00-263  
 Yoo, Jung Yul, J00-057  
 Yoon, Youngbin, J00-159, J00-160  
 Zaccanti, Marco, J00-247  
 Zaman, K. B. M. Q., J00-075  
 Zhao, Wei, J00-273  
 Zheng, Ji, J00-241  
 Zhong, Xiaolin, J00-174  
 Zhou, Xu, J00-258  
 Zhuang, Tian Ge, J00-142  
 Zingg, D. W., J00-053



## Chronological Index

- J98-262 Limitations of a Reduced Model for the Simulation of Hydrogen/Air Combustion.** W. Shawn Westmoreland and Pasquale Cinnella, *Mississippi State University* (36, 9, p. 1752) Technical Note  
Technical Comment by M. L. Rightley, *Los Alamos National Laboratory* (38, 1, p. 188)  
Reply (38, 1, p. 189)
- J98-294 Screech Tone Noise and Mode Switching in Supersonic Swirling Jets.** Young-Kil Yu, Ruey-Hung Chen, and Larry Chew, *University of Central Florida* (36, 11, p. 1968) Article  
Errata (38, 1, p. 189)
- J99-024 Jet Mixing Noise from Fine-Scale Turbulence.** Christopher K. W. Tam and Laurent Auriault, *Florida State University* (37, 2, p. 145) Article  
Technical Comment by H. S. Ribner, *University of Toronto* (38, 2, p. 377)  
Reply (38, 2, p. 377)  
Technical Comment by M. J. Fisher, *University of Southampton, England, UK* (38, 2, p. 379)  
Reply (38, 2, p. 379)
- J99-123 Elliptic Grid Generation.** R. Lehtimäki, *Helsinki University of Technology, Finland* (37, 6, p. 768) Technical Note  
Errata (38, 12, p. 2365)
- J00-001 Staggered-Mesh Computation for Aerodynamic Sound.** G. S. Djambazov, C.-H. Lai, and K. A. Pericleous, *University of Greenwich, England, U.K.* (38, 1, p. 16) Article based on AIAA Paper 98-2219
- J00-002 Numerical Solution of Acoustic Propagation Problems Using Linearized Euler Equations.** Christophe Bailly and Daniel Juve, *Ecole Centrale de Lyon, France* (38, 1, p. 22) Article based on AIAA Paper 98-2267
- J00-003 Impedance and Its Time-Domain Extensions.** K.-Y. Fung and Hongbin Ju, *Hong Kong Polytechnic University, PRC*; and BhanuPrakash Tallapragada, *Andhra University, India* (38, 1, p. 30) Article
- J00-004 Four-Channel Suction Distribution Optimization Experiments for Laminar Flow Control.** M. C. M. Wright and P. A. Nelson, *University of Southampton, England, UK* (38, 1, p. 39) Article
- J00-005 Inverse Solution Uniqueness and Domain of Existence for Space-Marching Applications.** Jae-Woo Lee, *Konkuk University, Republic of Korea*; and W. H. Mason, *Virginia Polytechnic Institute and State University* (38, 1, p. 44) Article
- J00-006 Finite Element Adaptive Multigrid Euler Solver for Rotary Wing Aerodynamics.** Carlo L. Bottasso, *Politecnico di Milano, Italy*; and Mark S. Shephard, *Rensselaer Polytechnic Institute* (38, 1, p. 50) Article
- J00-007 Rotor Wake Modeling for Flight Dynamic Simulation of Helicopters.** Richard E. Brown, *University of Glasgow, Scotland, U.K.* (38, 1, p. 57) Article
- J00-008 Effects of Injection Angle on Atomization of Liquid Jets in Transverse Airflow.** Raymond P. Fuller, Pei-Kuan Wu, and Kevin A. Kirkendall, *Taitech, Inc.*; and Abdollah S. Nejad, *U.S. Air Force Research Laboratory* (38, 1, p. 64) Article based on AIAA Paper 97-2966
- J00-009 Direct Numerical Simulation and Modeling of a Nonequilibrium Turbulent Plasma.** Pascale Domingo and Tewfik Benazzouz, *Institut National des Sciences Appliquées de Rouen, France* (38, 1, p. 73) Article based on AIAA Paper 98-9082
- J00-010 Two Interacting Vortex Ring Pairs and Their Sound Generation.** N. W. M. Ko, R. C. K. Leung, and K. K. Lam, *University of Hong Kong, PRC* (38, 1, p. 79) Article
- J00-011 Turbulence Effect on Frequency Characteristics of Unsteady Motions in Wake of Wing.** Rong F. Huang and Han W. Lee, *National Taiwan University of Science and Technology, ROC* (38, 1, p. 87) Article
- J00-012 Measurement of Transient Temperature Field Within a Falling Droplet.** QingZheng Lu and Lynn A. Melton, *University of Texas at Dallas* (38, 1, p. 95) Article
- J00-013 Investigation of Equivalent System Modeling and Dynamic Characteristics Using Reduced Models.** Young-Sug Shin and In Lee, *Korea Advanced Institute of Science and Technology, Korea* (38, 1, p. 102) Article
- J00-014 Strength Prediction of Fiber Reinforced Plastics with a Hole Under Compression-Tension.** C. Soutis, C. Filiou and V. Pateau, *Imperial College of Science, Technology, and Medicine, England, U.K.* (38, 1, p. 110) Article based on AIAA Paper 98-1701
- J00-015 Sensitivity Derivatives of Eigendata of One-Dimensional Structural Systems.** V. R. Murthy, Yu-An Lin, and Steven W. O'Hara, *Syracuse University* (38, 1, p. 115) Article
- J00-016 Combined Finite Element Analysis and Statistical Energy Analysis in Mechanical Intensity Calculations.** Anders M. Wilson and Lennart B. Josefson, *Chalmers University of Technology, Sweden* (38, 1, p. 123) Article based on AIAA Paper 97-1035
- J00-017 Multibody Implementation of Finite Volume  $C^0$  Beams.** Gian Luca Ghiringhelli, Pierangelo Masarati, and Paolo Mantegazza, *Politecnico di Milano, Italy* (38, 1, p. 131) Article
- J00-018 Structural Modeling of Parachute Dynamics.** Michael Accorsi and John Leonard, *University of Connecticut*; Richard Benney and Keith Stein, *U.S. Army Soldier and Biological Chemical Command* (38, 1, p. 139) Article
- J00-019 Redesigning the Dynamics of Structural Systems.** John B. Ferris, *DaimlerChrysler Corporation*; and Michael M. Bernitsas and Jeffrey L. Stein, *University of Michigan* (38, 1, p. 147) Article
- J00-020 From Dubious Construction of Objective Functions to the Application of Physical Programming.** Achille Messac, *Rensselaer Polytechnic Institute* (38, 1, p. 155) Article
- J00-021 Bilevel Integrated System Synthesis.** Jaroslaw Sobieszczanski-Sobieski, *NASA Langley Research Center*; and Jeremy S. Agte, Robert R. Sandusky Jr., *George Washington University* (38, 1, p. 164) Article based on AIAA Paper 98-4916



- J00-022 Aerodynamic Design Using Neural Networks.** Man Mohan Rai and Nateri K. Madavan, *NASA Ames Research Center* (38, 1, p. 173) Article based on AIAA Paper 98-4928
- J00-023 Shaping of Delta-Wing Planform to Suppress Vortex Breakdown.** S. Srigrarom and M. Kurosaka, *University of Washington* (38, 1, p. 183) Technical Note
- J00-024 Surface Shaping to Suppress Vortex Breakdown on Delta Wings.** S. Srigrarom and M. Kurosaka, *University of Washington* (38, 1, p. 186) Technical Note
- J00-025 Absorption of Sound near Abrupt Area Expansions.** I. D. J. Dupère and A. P. Dowling, *Cambridge University, England, UK* (38, 2, p. 193) Article based on AIAA Paper 98-2303
- J00-026 Inverse Aeroacoustic Problem for a Rectangular Wing.** Trevor H. Wood and Sheryl M. Grace, *Boston University* (38, 2, p. 203) Article based on AIAA Paper 98-2229
- J00-027 Variable  $N$ -Factor Method for Transition Prediction in Three-Dimensional Boundary Layers.** J. D. Crouch and L. L. Ng, *The Boeing Company* (38, 2, p. 211) Article
- J00-028 Two-Dimensional Elliptic Grid Solver Using Boundary Grid Control and Curvature Correction.** Yih Nen Jeng, *National Cheng Kung University, Taiwan, ROC*; and Wei Jin Kuo, *National Cheng-Kung University, Taiwan, ROC* (38, 2, p. 217) Article
- J00-029 Iterative Space-Marching Method for Compressible Sub-, Trans-, and Supersonic Flows.** N. K. Yamaleev, *Institute of Mathematics, Russia*; and J. Ballmann, *Technical University of Aachen, Germany* (38, 2, p. 225) Article
- J00-030 Efficient Computational Model for Inductive Plasma Flows.** David Vanden Abeele, *von Kármán Institute for Fluid Dynamics, Belgium*; and Gérard Degrez, (38, 2, p. 234) Article based on AIAA Paper 98-2825
- J00-031 Accurate Aerodynamic Sensitivity Analysis Using Adjoint Equations.** Chun-ho Sung and Jang Hyuk Kwon, *Korea Advanced Institute of Science and Technology, Korea* (38, 2, p. 243) Article based on AIAA Paper 98-4983
- J00-032 Traveling Instability Waves in a Mach 8 Flow over an Elliptic Cone.** Jonathan Poggie and Roger L. Kimmel, *U.S. Air Force Research Laboratory*; and Stephen N. Schwoerke, *Lockheed Martin Corporation* (38, 2, p. 251) Article based on AIAA Paper 98-0435
- J00-033 Turbulence Production and Transport in Quasi-Two-Dimensional Wake/Boundary-Layer Interaction.** G. A. Sideridis, E. G. Kastrinakis, and S. G. Nychas, *Aristotle University of Thessaloniki, Greece* (38, 2, p. 259) Article
- J00-034 Separated Flow Surface Pressure Fluctuations and Pressure-Velocity Correlations on Prolate Spheroid.** Michael C. Goody, Roger L. Simpson, and Christopher J. Chesnakas, *Virginia Polytechnic Institute and State University* (38, 2, p. 266) Article based on AIAA Paper 97-0485
- J00-035 Numerical Study of Shock-Reflection Hysteresis in an Underexpanded Jet.** B. J. Gribben, K. J. Badcock, and B. E. Richards, *University of Glasgow, Scotland, UK* (38, 2, p. 275) Article
- J00-036 Incidence Effects on Chordwise Bending Cascade Unsteady Aerodynamics.** Daniel A. Ehrlich and Sanford Fleeter, *Purdue University* (38, 2, p. 284) Article
- J00-037 Large Eddy Simulation of Aircraft Wake Vortices Within Homogeneous Turbulence: Crow Instability.** Jongil Han, Yuh-Lang Lin, David G. Schowalter, and S. Pal Arya, *North Carolina State University*; and Fred H. Proctor, *NASA Langley Research Center* (38, 2, p. 292) Article
- J00-038 Correlation of Helicopter Rotor Tip Vortex Measurements.** Mahendra J. Bhagwat and J. Gordon Leishman, *University of Maryland* (38, 2, p. 301) Article
- J00-039 Determination of Nonideal Beam Boundary Conditions: A Spectral Element Approach.** Usik Lee and Joohong Kim, *Inha University, Korea* (38, 2, p. 309) Article based on AIAA Paper 99-1311
- J00-040 Three-Dimensional Asymptotic Analysis of Multiple-Electroded Piezoelectric Laminates.** Zhen-Qiang Cheng, *University of Science and Technology of China, PRC*; and R. C. Batra, *Virginia Polytechnic Institute and State University* (38, 2, p. 317) Article
- J00-041 Adaptive Control of Shape Memory Alloy Actuators for Underwater Biomimetic Applications.** G. Webb, L. Wilson, D. Lagoudas, and O. Rediniotis, *Texas A&M University* (38, 2, p. 325) Article
- J00-042 Generalized Plane Solution for Monoclinic Piezoelectric Laminates.** Zhen-Qiang Cheng, *University of Science and Technology of China, PRC*; and R. C. Batra, *Virginia Polytechnic Institute and State University* (38, 2, p. 335) Article
- J00-043 Single- vs Multilayer Plate Modelings on the Basis of Reissner's Mixed Theorem.** Erasmo Carrera, *Politecnico di Torino, Italy* (38, 2, p. 342) Article
- J00-044 Dynamic Stability of Rectangular Plates Subjected to Pulsating Follower Forces.** Youn-Sun Choo, *Agency for Defense Development, Korea*; and Ji-Hwan Kim, *Seoul National University, Korea* (38, 2, p. 353) Article
- J00-045 Theory of Cylindrical Sandwich Shells with Dissimilar Facings Subjected to Thermomechanical Loads.** Victor Birman, *University of Missouri-Rolla*; and George J. Simitses, *University of Cincinnati* (38, 2, p. 362) Article
- J00-046 Application of Lighthill's Equation to a Mach 1.92 Turbulent Jet.** T. Colonius, *California Institute of Technology*; and J. B. Freund, *University of California, Los Angeles* (38, 2, p. 368) Technical Note
- J00-047 Numerical Optimization of the Suction Distribution for Laminar Flow Control.** O. R. Tutty, P. Hackenberg, and P. A. Nelson, *University of Southampton, England, UK* (38, 2, p. 370) Technical Note



**J00-048 Channel Flow Instability in Presence of Weak Distributed Surface Suction.** J. J. Szumbariski and J. M. Floryan, *University of Western Ontario, Canada* (38, 2, p. 372) Technical Note

**J00-049 Vibration of Thermally Stressed Pretwisted Cantilever Composite Plates.** Lazarus Tenek, *Iowa State University* (38, 2, p. 374) Technical Note

**J00-050 Side Force on an Ogive Cylinder: Effects of Control Devices.** A. S. Lee, S. C. Luo, T. T. Lim, K. B. Lua, *National University of Singapore, Singapore*; and E. K. R. Goh, *DSO National Laboratories, Republic of Singapore* (38, 3, p. 385) Article

**J00-051 Computation of Acoustic Propagation in Two-Dimensional Sheared Ducted Flows.** Elisabeth Longatte and Philippe Lafon, *Electricité de France, France*; and Sébastien Candel, *École Centrale Paris, France* (38, 3, p. 389) Article based on AIAA Paper 97-1631

**J00-052 Prediction of Rotorcraft Noise with a Low-Dispersion Finite Volume Scheme.** Gang Wang and Lakshmi N. Sankar, *Georgia Institute of Technology*; and Hormaz Tadghighi, *The Boeing Company* (38, 3, p. 395) Article based on AIAA Paper 99-0480

**J00-053 Aerodynamic Computations Using the Convective-Upstream Split-Pressure Scheme with Local Preconditioning.** M. Nemec and D. W. Zingg, *University of Toronto, Canada* (38, 3, p. 402) Article based on AIAA Paper 98-2444

**J00-054 Elimination of Spurious Loss in Euler Equation Computations.** Mark Drela, Ali Merchant, and Jaime Peraire, *Massachusetts Institute of Technology* (38, 3, p. 411) Article based on AIAA Paper 98-2424

**J00-055 Smoothed Sensitivity Equation Method for Fluid Dynamic Design Problems.** Andrea Dadone, *Politecnico di Bari, Italy*; Mauro Valorani, *University of Rome "La Sapienza", Italy*; and Bernard Grossman, *Virginia Polytechnic Institute and State University* (38, 3, p. 418) Article

**J00-056 Large Eddy Simulation in Complex Geometric Configurations Using Boundary Body Forces.** Roberto Verzicco, *Politecnico di Bari, Italy*; Jamaludin Mohd-Yusof, *Stanford University*; Paolo Orlandi, *University of Rome "La Sapienza", Italy*; and Daniel Haworth, *General Motors Research and Development Center* (38, 3, p. 427) Article

**J00-057 Resonance in an Axisymmetric Jet Under Controlled Helical, Fundamental, and Axisymmetric Subharmonic Forcing.** Sung Kwon Cho, Jung Yul Yoo, and Haecheon Choi, *Seoul National University, Korea* (38, 3, p. 434) Article based on AIAA Paper 98-0783

**J00-058 Large Eddy Simulations of the Flow Around a Square Prism.** C. Fureby, *Imperial College, Sweden*; and G. Tabor, H. G. Weller, and A. D. Gosman, *Imperial College, England, UK* (38, 3, p. 442) Article

**J00-059 Instability of an Annular Liquid Sheet Surrounded by Swirling Airstreams.** Y. Liao, S. M. Jeng, and M. A. Jog, *University of Cincinnati*; and M. A. Benjamin, *Parker Hannifin Corporation* (38, 3, p. 453) Article based on AIAA Paper 98-3832

**J00-060 Investigation of Nonlinear Eddy-Viscosity Turbulence Models in Shock/Boundary-Layer Interaction.** G. Barakos and D. Drikakis, *UMIST, England, UK* (38, 3, p. 461) Article

**J00-061 Mixing of a Sonic Transverse Jet Injected into a Supersonic Flow.** Wayne M. VanLerberghe, *The Aerospace Corporation*; Juan G. Santiago, *Stanford University*; J. Craig Dutton and Robert P. Lucht, *Texas A&M University* (38, 3, p. 470) Article

**J00-062 Supersonic Channel Airfoils for Reduced Drag.** Stephen M. Ruffin, Anurag Gupta, and David Marshall, *Georgia Institute of Technology* (38, 3, p. 480) Article based on AIAA Paper 97-0517

**J00-063 Application of Neural Networks to Stereoscopic Imaging Velocimetry.** Yi Ge and Soyoung Stephen Cha, *University of Illinois at Chicago* (38, 3, p. 487) Article based on AIAA Paper 98-2812

**J00-064 Active Tendon Control of Large Trusses.** A. Preumont, Y. Achkire, and F. Bossens, *Free University of Brussels, Belgium* (38, 3, p. 493) Article based on AIAA Paper 98-1799

**J00-065 Dynamic Response of Adaptive Cross-Ply Cantilevers Featuring Interlaminar Bonding Imperfections.** U. Icardi and M. Di Sciuva, *Politecnico di Torino, Italy*; and L. Librescu, *Virginia Polytechnic Institute and State University* (38, 3, p. 499) Article

**J00-066 Bifurcation, Limit-Point Buckling, and Dynamic Collapse of Transversely Loaded Composite Shells.** Brian L. Wardle and Paul A. Lagace, *Massachusetts Institute of Technology* (38, 3, p. 507) Article based on AIAA Paper 99-1322

**J00-067 Approximations in Optimization of Damage Tolerant Structures.** John H. Garcelon and Raphael T. Haftka, *University of Florida*; and Stephen J. Scotti, *NASA Langley Research Center* (38, 3, p. 517) Article

**J00-068 Higher-Order Finite Element for Sandwich Plates.** S. Oskooei and J. S. Hansen, *University of Toronto, Canada* (38, 3, p. 525) Article

**J00-069 Boundary Element Analysis of Coupled Thermoelasticity with Relaxation Times in Finite Domain.** Parissa Hosseini Tehrani and Mohamad Reza Eslami, *Amirkabir University of Technology, Iran* (38, 3, p. 534) Article

**J00-070 In-Plane Warping Effects in Thin-Walled Box Beams.** Omri Rand, *Technion-Israel Institute of Technology, Israel* (38, 3, p. 542) Technical Note

**J00-071 Generation of Inflow Conditions in a Reynolds-Averaged Navier-Stokes Closure.** Gwang Hoon Rhee and Hyung Jin Sung, *Korea Advanced Institute of Science and Technology, Korea* (38, 3, p. 545) Technical Note

**J00-072 Review of Planar Multiple-Component Velocimetry in High-Speed Flows.** M. Samimy, *Ohio State University*; and M. P. Wernet, *NASA John H. Glenn Research Center at Lewis Field* (38, 4, p. 553) Article



**J00-073 Trailing-Edge Noise Prediction Using Large-Eddy Simulation and Acoustic Analogy.** Eric Manoha, Bruno Troff, and Pierre Sagaut, *ONERA, France* (38, 4, p. 575) Article based on AIAA Paper 98-1066

**J00-074 Analytical Predictions and Measurements of the Noise Radiated from Supersonic Coaxial Jets.** Milo D. Dahl, *NASA John H. Glenn Research Center at Lewis Field*; and Dimitri Papamoschou, *University of California, Irvine* (38, 4, p. 584) Article

**J00-075 Subsonic Jet Noise from Nonaxisymmetric and Tabled Nozzles.** Christopher K. W. Tam, *Florida State University*; and K. B. M. Q. Zaman, *NASA John H. Glenn Research Center at Lewis Field* (38, 4, p. 592) Article based on AIAA Paper 99-0077

**J00-076 Grid-Size Dependence in the Large-Eddy Simulation of Kolmogorov Flow.** S. L. Woodruff, *Florida State University*; J. M. Seiner, *University of Mississippi*; and M. Y. Hussaini, *Florida State University* (38, 4, p. 600) Article based on AIAA Paper 99-3777

**J00-077 Large-Eddy Simulations: Where Are We and What Can We Expect?** Javier Jiménez, *Universidad Politécnica de Madrid*; and Robert D. Moser, *University of Illinois* (38, 4, p. 605) Article based on AIAA Paper 98-2891

**J00-078 Wake of a Self-Propelled Body, Part 1: Momentumless Wake.** A. I. Sirviente, *University of Michigan*; and V. C. Patel, *University of Iowa* (38, 4, p. 613) Article

**J00-079 Wake of a Self-Propelled Body, Part 2: Momentumless Wake with Swirl.** A. I. Sirviente, *University of Michigan*; and V. C. Patel, *University of Iowa* (38, 4, p. 620) Article

**J00-080 Eddy Convection in Coaxial Supersonic Jets.** Erina Murakami and Dimitri Papamoschou, *University of California, Irvine* (38, 4, p. 628) Article based on AIAA Paper 98-3015

**J00-081 Turbulence Generation in Homogeneous Particle-Laden Flows.** J.-H. Chen, J.-S. Wu, and G. M. Faeth, *University of Michigan* (38, 4, p. 636) Article based on AIAA Paper 98-0240

**J00-082 Numerical Study of Wake Vortex Decay and Descent in a Homogeneous Atmospheric Turbulence.** Jongil Han, Yuh-Lang Lin, and S. Pal Arya, *North Carolina State University*; and Fred H. Proctor, *NASA Langley Research Center* (38, 4, p. 643) Article

**J00-083 Evolution of an Isolated Turbulent Trailing Vortex.** Stefan Wallin, *Aeronautical Research Institute of Sweden (FFA), Sweden*; and Sharath S. Girimaji, *NASA Langley Research Center* (38, 4, p. 657) Article based on AIAA Paper 99-3767

**J00-084 Laser-Generated Localized Freestream Perturbations in Supersonic and Hypersonic Flows.** J. D. Schmisser, *Air Force Research Laboratory*; and Steven H. Collicott and Steven P. Schneider, *Purdue University* (38, 4, p. 666) Article based on AIAA Paper 98-2495

**J00-085 Megahertz Pulse-Burst Laser and Visualization of Shock-Wave/Boundary-Layer Interaction.** Pingfan Wu, Walter R. Lempert, and Richard B. Miles, *Princeton University* (38, 4, p. 672) Article

**J00-086 Hemivariational Inequality Modeling of Hybrid Laminates with Unidirectional Composite Constituents.** Georgios E. Stavroulakis, *Carolo Wilhelmina Technical University, Germany*; and Euripidis S. Mistakidis, *Aristotle University, Greece* (38, 4, p. 680) Article

**J00-087 Interlaminar Stresses in Laminated Composite Beam-Type Structures Under Shear/Bending.** Alberto Milazzo, *University of Palermo, Italy* (38, 4, p. 687) Article

**J00-088 Molecular Dynamics Study on Mechanical Properties and Fracture in Amorphous Metal.** Keiko Nakatani, *Osaka Prefecture University, Japan*; Akihiro Nakatani, *Osaka University, Japan*; Yoshihiko Sugiyama, *Osaka Prefecture University, Japan*; and Hiroshi Kitagawa, *Osaka University, Japan* (38, 4, p. 695) Article based on AIAA Paper 98-1815

**J00-089 Sensitivities and Linear Stability Analysis Around a Double-Zero Eigenvalue.** A. Luongo, A. Paolone, and A. Di Egidio, *Università di L'Aquila, Italy* (38, 4, p. 702) Article

**J00-090 Damping Effects in Nonlinear Panel Flutter.** Maher N. Bismarck-Nasr and Carlos Alberto Bones, *Instituto Tecnológico de Aeronáutica, Brazil* (38, 4, p. 711) Technical Note

**J00-091 Compact Schemes with Spatial Filtering in Computational Aeroacoustics.** E. K. Koutsavdis, G. A. Blaisdell, and A. S. Lyrantzis, *Purdue University* (38, 4, p. 713) Technical Note

**J00-092 Drag Reduction with a Sliding Wall in Flow over a Circular Cylinder.** Byunggwi Choi and Haecheon Choi, *Seoul National University, Korea* (38, 4, p. 715) Technical Note

**J00-093 Development of  $O(Nm^2)$  Preconditioned Multigrid Solvers for Euler and Navier-Stokes Equations.** Jack R. Edwards, *North Carolina State University*; and James L. Thomas, *NASA Langley Research Center* (38, 4, p. 717) Technical Note based on AIAA Paper 99-3263

**J00-094 Design of a Nozzle Contraction for Uniform Sonic Throat Flow.** T.-L. Ho and G. Emanuel, *University of Oklahoma* (38, 4, p. 720) Technical Note

**J00-095 Hypersonic Flow Control Using Upstream Focused Energy Deposition.** David W. Riggins and H. F. Nelson, *University of Missouri-Rolla* (38, 4, p. 723) Technical Note based on AIAA Paper 99-0898

**J00-096 Ablative Laser Propulsion: An Old Concept Revisited.** Andrew V. Pakhomov and Don A. Gregory, *University of Alabama in Huntsville* (38, 4, p. 725) Technical Note

**J00-097 Criterion to Determine the Number of Modes in a Frequency Band.** Joseph Lardies, and Nouredine Larbi, *University of Franche Comté, France* (38, 4, p. 727) Technical Note

**J00-098 Correcting System Matrices Using the Orthogonality Conditions of Distinct Measured Modes.** Philip D. Cha, *Harvey Mudd College* (38, 4, p. 730) Technical Note



- J00-099 Modal Response of Trapezoidal Wing Structures Using Second-Order Shape Sensitivities.** Youhua Liu and Rakesh K. Kapania, *Virginia Polytechnic Institute and State University* (38, 4, p. 732) Technical Note
- J00-100 Constitutive Equations of Composite Laminated One-Way Panels.** Izhak Sheinman and Yeoshua Frostig, *Technion—Israel Institute of Technology, Israel* (38, 4, p. 735) Technical Note
- J00-101 Failure Analysis of Scarf-Patch-Repaired Carbon Fiber/Epoxy Laminates Under Compression.** C. Soutis and F. Z. Hu, *Imperial College of Science, Technology, and Medicine, England, UK* (38, 4, p. 737) Technical Note
- J00-102 Numerical Simulation of a Three-Dimensional Flame/Shock Wave Interaction.** Christopher J. Roy and Jack R. Edwards, *North Carolina State University* (38, 5, p. 745) Article based on AIAA Paper 98-3210
- J00-103 Enhanced Aeroelastic Analysis of Panels Under Transitory Hypersonic Flow Conditions.** Radu Udrescu, *Comoti, S. A., Romania*; and Giuseppe Surace, *Politecnico di Torino, Italy* (38, 5, p. 755) Article based on AIAA Paper 99-1432
- J00-104 Effects of Jet Temperature and Nozzle-Lip Thickness on Screech Tones.** Hao Shen and Christopher K. W. Tam, *Florida State University* (38, 5, p. 762) Article
- J00-105 Time-Domain Calculation of Sound Propagation in Lined Ducts with Sheared Flows.** Yusuf Özyörük, *Middle East Technical University, Turkey*; and Lyle N. Long, *Pennsylvania State University* (38, 5, p. 768) Article
- J00-106 Solution of the Two-Dimensional Vorticity Equation on a Lagrangian Mesh.** Stephen A. Huyer and John R. Grant, *U.S. Naval Undersea Warfare Center* (38, 5, p. 774) Article
- J00-107 Turbulence Modeling in Rotating and Curved Channels: Assessing the Spalart-Shur Correction.** Michael L. Shur, Michael K. Strelets, and Andrey K. Travin, *Federal Scientific Center of Applied Chemistry, Russia*; and Philippe R. Spalart, *The Boeing Company* (38, 5, p. 784) Article
- J00-108 Oscillation of Vortex Breakdown Location and Blowing Control of Time-Averaged Location.** Anthony M. Mitchell, Didier Barberis, Pascal Molton, and Jean Détery, *ONERA, France* (38, 5, p. 793) Article based on AIAA Paper 98-2914
- J00-109 Interaction Between a Conical Shock Wave and a Plane Turbulent Boundary Layer.** S. L. Gai, *Australian Defence Force Academy*; and S. L. Teh, *Nanyang Technological University, Republic of Singapore* (38, 5, p. 804) Article
- J00-110 Multiple Inviscid Solutions for the Flow in a Leading-Edge Vortex.** M. B. H. van Noordenburg and H. W. M. Hoeijmakers, *University of Twente, The Netherlands* (38, 5, p. 812) Article
- J00-111 Turbulent Vortex Breakdown at High Reynolds Numbers.** F. Novak and T. Sarpkaya, *Naval Postgraduate School* (38, 5, p. 825) Article based on AIAA Paper 99-0135
- J00-112 Results for a Two-Component Doppler Global Velocimeter.** Steve Naylor and John Kuhlman, *West Virginia University* (38, 5, p. 835) Article based on AIAA Paper 99-0268
- J00-113 Aeroelastic Analysis of a Hingeless Rotor Blade in Forward Flight.** Seong Min Jeon and In Lee, *Korea Advanced Institute of Science and Technology, Korea* (38, 5, p. 843) Article
- J00-114 Dynamic Analysis of a Spinning Timoshenko Beam by the Differential Quadrature Method.** Siu-Tong Choi, Jiunn-Der Wu, and Yu-Tuan Chou, *National Cheng-Kung University, Taiwan, ROC* (38, 5, p. 851) Article based on AIAA Paper 99-1401
- J00-115 Cylindrical Bending of Laminated Plates with Distributed and Segmented Piezoelectric Actuators/Sensors.** Senthil S. Vel and R. C. Batra, *Virginia Polytechnic Institute and State University* (38, 5, p. 857) Article
- J00-116 Fracture Mode Separation for Delamination in Platelike Composite Structures.** Z. Yang and C. T. Sun, *Purdue University*; and J. Wang, *NASA Langley Research Center* (38, 5, p. 868) Article based on AIAA Paper 98-2024
- J00-117 Partitioned, Multilevel Response Surfaces for Modeling Complex Systems.** Patrick N. Koch, Dimitri Mavris, and Farrokh Mistree, *Georgia Institute of Technology* (38, 5, p. 875) Article based on AIAA Paper 98-4958
- J00-118 Probabilistic Fatigue Crack Growth Analyses for Critical Structural Details.** G. S. Wang, *Aeronautical Research Institute of Sweden, Sweden* (38, 5, p. 882) Article
- J00-119 Flange Delamination Prediction in Composite Structures with Ply Waviness.** Jian Li, *The Boeing Company* (38, 5, p. 893) Article based on AIAA Paper 98-5570
- J00-120 Reduced-Order Design-Oriented Stress Analysis Using Combined Direct and Adjoint Solutions.** Eli Livne and Guillermo D. Blando, *University of Washington* (38, 5, p. 898) Article
- J00-121 Method for Treating Discretization Error in Nondeterministic Analysis.** Kenneth F. Alvin, *Sandia National Laboratories* (38, 5, p. 910) Article
- J00-122 Interactive Physical Programming: Tradeoff Analysis and Decision Making in Multicriteria Optimization.** Ravindra V. Tappeta, *General Electric Corporate R & D Center*; John E. Renaud, *University of Notre Dame*; and Achille Messac and Glynn J. Sundararaj, *Northeastern University* (38, 5, p. 917) Article based on AIAA Paper 99-1209
- J00-123 Extended Kirsch Combined Method for Eigenvalue Reanalysis.** Su Huan Chen and Xiao Wei Yang, *Jilin University of Technology, PRC* (38, 5, p. 927) Article
- J00-124 Unsteady Lifting Surface Theory in Sonic Flow: The Problem Revisited.** Paulo A. O. Soviero and Fábio H. L. Pinto, *Instituto Tecnológico de Aeronáutica, Brazil* (38, 5, p. 931) Technical Note
- J00-125 Prediction of Hysteresis Associated with the Static Stall of an Airfoil.** S. Mittal and P. Saxena, *Indian Institute of Technology, India* (38, 5, p. 933) Technical Note
- J00-126 On Mixing Enhancement via Nozzle Trailing-Edge Modifications in High-Speed Jets.** J.-H. Kim and M. Samimy, *Ohio State University* (38, 5, p. 935) Technical Note



**J00-127 Insensitivity of Unsteady Vortex Interactions to Reynolds Number.** Caroline Lambert and Ismet Gursul, *University of Bath, England, UK* (38, 5, p. 937) Technical Note

**J00-128 Modeling of Three-Dimensional Viscous Compressible Turbomachinery Flows Using Unstructured Hybrid Grids.** A. I. Sayma, M. Vahdati, L. Sbardella, and M. Imregun, *Imperial College of Science, Technology, and Medicine, England, UK* (38, 6, p. 945) Article

**J00-129 Assessment and Modification of Two-Equation Turbulence Models.** P. Pajayakrit and R. J. Kind, *Carleton University, Canada* (38, 6, p. 955) Article based on AIAA Paper 99-0790

**J00-130 Photogrammetry Applied to Wind-Tunnel Testing.** Tianshu Liu, L. N. Cattafesta, III, and R. H. Radeztsky, *High Technology Corporation*; and A. W. Burner, *NASA Langley Research Center* (38, 6, p. 964) Article

**J00-131 Control of Shock Loading from a Jet in a Flexible Structure's Presence.** Lucio Maestrello, *NASA Langley Research Center* (38, 6, p. 972) Article

**J00-132 Experimental Investigation of the Confluent Boundary Layer of a High-Lift System.** F. O. Thomas and R. C. Nelson and X. Liu, *University of Notre Dame* (38, 6, p. 978) Article

**J00-133 Penetration and Spreading of Liquid Jets in an External-Internal Compression Inlet.** T. Livingston and C. Segal, *University of Florida*; M. Schindler, *University of Stuttgart, Germany*; and V. A. Vinogradov, *Central Institute of Aviation Motors, Russia* (38, 6, p. 989) Article

**J00-134 Interwake Turbulence Properties of Homogeneous Dilute Particle-Laden Flows.** J.-H. Chen and G. M. Faeth, *University of Michigan* (38, 6, p. 995) Article

**J00-135 Shock-Shape Alteration Caused by Interaction with Organized Structures.** G. Erlebacher and M. Y. Hussaini, *Florida State University* (38, 6, p. 1002) Article

**J00-136 Planar Doppler Velocimetry in a Large-Scale Facility.** A. D. Mosedale and G. S. Elliott, *Rutgers University*; C. D. Carter, *Innovative Scientific Solutions, Inc.*; and T. J. Beutner, *U.S. Air Force Research Laboratory* (38, 6, p. 1010) Article

**J00-137 Excitation of Thermoacoustic Instabilities by Interaction of Acoustics and Unstable Swirling Flow.** Christian Oliver Paschereit, *ABB Corporate Research Ltd., Switzerland*; Ephraim Gutmark, *Louisiana State University*; and Wolfgang Weisenstein, *ABB Corporate Research Ltd., Switzerland* (38, 6, p. 1025) Article

**J00-138 Universal Perturbation Technique for Reanalysis of Non-Self-Adjoint Systems.** J. K. Liu, *Zhongshan University, PRC* (38, 6, p. 1035) Article

**J00-139 Use of Substructural Transmission Zeros for Structural Health Monitoring.** Gregory W. Reich and K. C. Park, *University of Colorado* (38, 6, p. 1040) Article

**J00-140 Size Effects in Scaled Fiber Composites Under Four-Point Flexure Loading.** David P. Johnson, *Mississippi State University*; John Morton, *Royal Aerospace Establishment, England, UK*; Sotiris Kellas, *Lockheed Engineering and Sciences Company*; and Karen E. Jackson, *U.S. Army Research Laboratory* (38, 6, p. 1047) Article

**J00-141 Thermo-Mechanical Response of Patched Plates.** A. M. Karlsson, *Rutgers University*; and W. J. Bottega, *Rutgers University* (38, 6, p. 1055) Article based on AIAA Paper 99-1231

**J00-142 Fusion of Wavelet Packets and Neural Network in Detection of Composites.** Yao-Jun Wu, Xi-Zhi Shi, and Tian Ge Zhuang, *Shanghai Jiao Tong University, PRC* (38, 6, p. 1063) Article

**J00-143 Dynamic Stability of a Free-Free Cylindrical Shell Under a Follower Force.** Si-Hyoung Park and Ji-Hwan Kim, *Seoul National University, Korea* (38, 6, p. 1070) Article

**J00-144 Dynamic Superelement Modeling Method for Compound Dynamic Systems.** Zu-Qing Qu and R. Panneer Selvam, *University of Arkansas* (38, 6, p. 1078) Article

**J00-145 Ability of Objective Functions to Generate Points on Nonconvex Pareto Frontiers.** Achille Messac, Glynn J. Sundararaj, *Northeastern University*; and Ravindra V. Tappeta and John E. Renaud, *University of Notre Dame* (38, 6, p. 1084) Article

**J00-146 Measurements in the Tip Vortex Roll-Up Region of an Oscillating Wing.** Jo Won Chang and Seung O Park, *Korea Advanced Institute of Science and Technology, Korea* (38, 6, p. 1092) Technical Note based on AIAA Paper 99-0142

**J00-147 Application of Acoustic Analogy to Automotive Engine-Cooling Fan Noise Prediction.** Jeonghan Lee, Kyungseok Cho, and Soogab Lee, *Seoul National University, Korea* (38, 6, p. 1095) Technical Note

**J00-148 Navier-Stokes Prediction of Internal Flows with a Three-Equation Turbulence Model.** S. Duranti and F. Pittaluga, *University of Genoa, Italy* (38, 6, p. 1098) Technical Note based on AIAA Paper 99-3372

**J00-149 Vortex Method Simulation of the Flow Around a Circular Cylinder.** Angelo A. Mustto and Gustavo C. R. Bodstein, *Federal University of Rio de Janeiro, Brazil*; and Miguel H. Hirata, *Federal Engineering School of Itajuba, Brazil* (38, 6, p. 1100) Technical Note based on AIAA Paper 98-2409

**J00-150 Vibration Analysis of Thick Laminated Composite Cylindrical Shells.** K. Y. Lam, T. Y. Ng, and Wu Qian, *National University of Singapore, Republic of Singapore* (38, 6, p. 1102) Technical Note

**J00-151 Analysis and Testing of Mach-Scaled Rotor with Trailing-Edge Flaps.** Nikhil A. Koratkar and Inderjit Chopra, *University of Maryland* (38, 7, p. 1113) Article

**J00-152 Vibration Reduction in Rotor Blades Using Active Composite Box Beam.** Aditi Chattopadhyay, Qiang Liu, and Haozhong Gu, *Arizona State University* (38, 7, p. 1125) Article



- J00-153 Numerical and Experimental Study of Rotating Stall in an Axial Compressor Stage.** Hélène M. Saxer-Felici, André P. Saxer, Andreas Inderbitzin, and George Gyarmathy, *Swiss Federal Institute of Technology, Switzerland* (38, 7, p. 1132) Article based on AIAA Paper 98-3298
- J00-154 Unsteady Swirling Flows with Annular Cascades, Part 1: Evolution of Incident Disturbances.** Vladimir V. Golubev and Hafiz M. Atassi, *University of Notre Dame* (38, 7, p. 1142) Article based on AIAA Paper 97-1635
- J00-155 Unsteady Swirling Flows With Annular Cascades, Part 2: Aerodynamic Blade Response.** Vladimir V. Golubev and Hafiz M. Atassi, *University of Notre Dame* (38, 7, p. 1150) Article based on AIAA Paper 97-1634
- J00-156 Direct Numerical Simulation of Leading-Edge Receptivity to Sound.** David Fuciarelli, Helen Reed, and Ian Lyttle, *Arizona State University* (38, 7, p. 1159) Article
- J00-157 Electrohydrodynamic Flow Control with a Glow-Discharge Surface Plasma.** J. Reece Roth and Daniel M. Sherman, *University of Tennessee*; and Stephen P. Wilkinson, *NASA Langley Research Center* (38, 7, p. 1166) Article based on AIAA Paper 98-0328
- J00-158 Numerical Investigation of Instability and Transition in an Obstructed Channel.** Kyung-Soo Yang, *Inha University, Korea* (38, 7, p. 1173) Article
- J00-159 Computational Fluid Dynamics Algorithms for Unsteady Shock-Induced Combustion, Part 1: Validation.** Jeong-Yeol Choi, *Pusan National University, Korea*; and In-Seuck Jeung and Youngbin Yoon, *Seoul National University, Korea* (38, 7, p. 1179) Article based on AIAA Paper 98-3217
- J00-160 Computational Fluid Dynamics Algorithms for Unsteady Shock-Induced Combustion, Part 2: Comparison.** Jeong-Yeol Choi, *Pusan National University, Korea*; and In-Seuck Jeung and Youngbin Yoon, *Seoul National University, Korea* (38, 7, p. 1188) Article based on AIAA Paper 98-3217
- J00-161 New Two-Equation Eddy Viscosity Transport Model for Turbulent Flow Computation.** Shia-Hui Peng and Lars Davidson, *Chalmers University of Technology, Sweden* (38, 7, p. 1196) Article
- J00-162 Collision of a Vortex Jet with Stator Vanes.** J. A. Lee and A. T. Conlisk, *Ohio State University* (38, 7, p. 1206) Article
- J00-163 Parametric Study of Simplex Fuel Nozzle Internal Flow and Performance.** A. T. Sakman, M. A. Jog, and S. M. Jeng, *University of Cincinnati*; and M. A. Benjamin, *Parker Hannifin Corporation* (38, 7, p. 1214) Article based on AIAA Paper 98-3906
- J00-164 Oscillatory Temperature Measurements in a Pulsed Microgravity Diffusion Flame.** U. Hegde, *National Center for Microgravity Research*; M. Y. Bahadori, *Science and Technology Development Corporation*; and D. P. Stocker, *NASA John H. Glenn Research Center at Lewis Field* (38, 7, p. 1219) Article
- J00-165 Self-Similarity of Hydroxyl-Concentration Temporal Statistics in Turbulent Nonpremixed Jet Flames.** Michael W. Renfro, Jay P. Gore, Galen B. King, and Normand M. Laurendeau, *Purdue University* (38, 7, p. 1230) Article
- J00-166 Velocity Measurements in a Shock-Separated Free Shear Layer.** C. W. Palko and J. C. Dutton, *University of Illinois at Urbana-Champaign* (38, 7, p. 1237) Article based on AIAA Paper 98-0698
- J00-167 Diode Laser Sensor for Gasdynamic Measurements in a Model Scramjet Combustor.** B. L. Upschulte, M. F. Miller, and M. G. Allen, *Physical Sciences, Inc.* (38, 7, p. 1246) Article
- J00-168 Energy Method for Selection of Degrees of Freedom in Condensation.** Ki-Ook Kim and Young-Jae Choi, *Inha University, Korea* (38, 7, p. 1253) Article
- J00-169 Passively Damped Laminated Piezoelectric Shell Structures with Integrated Electric Networks.** Dimitris A. Saravanos, *Ohio Aerospace Institute, Greece* (38, 7, p. 1260) Article
- J00-170 Static and Vibration Analyses of General Wing Structures Using Equivalent Plate Models.** Rakesh K. Kapania and Youhua Liu, *Virginia Polytechnic Institute and State University* (38, 7, p. 1269) Article based on AIAA Paper 2000-1434
- J00-171 Modeling Hail Ice Impacts and Predicting Impact Damage Initiation in Composite Structures.** Hyonny Kim and Keith T. Kedward, *University of California* (38, 7, p. 1278) Article
- J00-172 Exact Bending Solution of Inhomogeneous Plates from Homogeneous Thin-Plate Deflection.** Zhen-Qiang Cheng, *University of Science and Technology of China, Australia*; and S. Kitipornchai, *University of Queensland, Australia* (38, 7, p. 1289) Article
- J00-173 Resolving the Dependence on Free-Stream Values for the  $k$ - $\omega$  Turbulence Model.** Johan C. Kok, *National Aerospace Laboratory NLR, The Netherlands* (38, 7, p. 1292) Technical Note
- J00-174 Numerical Simulation of Unsteady Low-Reynolds-Number Separated Flows over Airfoils.** Mahidhar Tatineni and Xiaolin Zhong, *University of California* (38, 7, p. 1295) Technical Note based on AIAA Paper 97-1929
- J00-175 Improved Low-Reynolds-Number  $k$ - $\epsilon$  Model.** M. M. Rahman and T. Siikonen, *Helsinki University of Technology, Finland* (38, 7, p. 1298) Technical Note
- J00-176 Vibration of Thermally Stressed Composite Plates with and Without Cutouts.** Lazarus Teneketzis Tenek, *Aristotle University of Thessaloniki, Greece* (38, 7, p. 1300) Technical Note
- J00-177 Analysis of Random Gust Response with Nonlinear Unsteady Aerodynamics.** Yan-Nian Lee and C. Edward Lan, *University of Kansas* (38, 8, p. 1305) Article
- J00-178 Approximate Added-Mass Method for Estimating Induced Power for Flapping Flight.** S. Sunada and C. P. Ellington, *University of Cambridge, England, UK* (38, 8, p. 1313) Article
- J00-179 Modeling the Response from a Cascade to an Upstream Acoustic Disturbance.** Gerald C. Paynter and Larry T. Clark, *The Boeing Company*; and Gary L. Cole, *NASA John H. Glenn Research Center at Lewis Field* (38, 8, p. 1322) Article based on AIAA Paper 98-0953



- J00-180 Microfluid Dynamics and Acoustics of Resonant Liners.** Christopher K. W. Tam and Konstantin A. Kurbatskii, *Florida State University* (38, 8, p. 1331) Article based on AIAA Paper 99-1850
- J00-181 Subgrid-Scale Models for Large-Eddy Simulations of Compressible Wall Bounded Flows.** E. Lenormand, P. Sagaut, L. Ta Phuoc, and P. Comte, *ONERA, France* (38, 8, p. 1340) Article
- J00-182 Influence of Curvature-Driven Favorable Pressure Gradient on Supersonic Turbulent Boundary Layer.** Joel J. Luker, *San Antonio Air Logistics Center*; Rodney D. W. Bowersox, *University of Alabama*; and Thomas A. Buter, *U.S. Air Force Test Pilot School* (38, 8, p. 1351) Article
- J00-183 Parallel Computations of High-Lift Airfoil Flows Using Two-Equation Turbulence Models.** Chang Sung Kim, Chongam Kim, and Oh Hyun Rho, *Seoul National University, Korea* (38, 8, p. 1360) Article
- J00-184 Navier-Stokes Simulation of Harmonic Point Disturbances in an Airfoil Boundary Layer.** Christian Stemmer, Markus J. Kloker, and Siegfried Wagner, *University of Stuttgart, Germany* (38, 8, p. 1369) Article based on AIAA Paper 98-2436
- J00-185 Local Block Relaxation Method for the Solution of the Equations of Gasdynamics.** Carlo de Nicola and Renato Tognaccini, *University of Naples "Federico II", Italy*; and Vittorio Puoti, *Centro Italiano Ricerche Aerospaziali, Italy* (38, 8, p. 1377) Article
- J00-186 Refined Interaction Method for Direct Numerical Simulation of Transition in Separation Bubbles.** Ulrich Maucher, Ulrich Rist, and Siegfried Wagner, *University of Stuttgart, Germany* (38, 8, p. 1385) Article
- J00-187 Turbulence Model Predictions of Strongly Curved Flow in a U-Duct.** Christopher L. Rumsey, Thomas B. Gatski, and Joseph H. Morrison, *NASA Langley Research Center* (38, 8, p. 1394) Article based on AIAA Paper 99-0157
- J00-188 Influence of Random Excitations on Acoustic Instabilities in Combustion Chambers.** V. S. Burnley, *U.S. Air Force Research Laboratory*; and F. E. C. Culick, *California Institute of Technology* (38, 8, p. 1403) Article
- J00-189 Modeling the Propagation of a Shock Wave Through a Glow Discharge.** Jonathan Poggie, *U.S. Air Force Research Laboratory* (38, 8, p. 1411) Article based on AIAA Paper 99-0867
- J00-190 Strongly Stably Stratified Grid Turbulence Using Second-Moment Closure.** Yunliang Wang, Kouji Nagata, and Satoru Komori, *Kyoto University, Japan* (38, 8, p. 1419) Article
- J00-191 Calculating Derivatives of Repeated and Nonrepeated Eigenvalues Without Explicit Use of Eigenvectors.** Uwe Prells and Michael I. Friswell, *University of Wales Swansea, England, UK* (38, 8, p. 1426) Article
- J00-192 Novel Micromechanics-Based Woven-Fabric Composite Constitutive Model with Material Nonlinear Behavior.** Ala Tabiei, Yiwei Jiang, and Witao Yi, *University of Cincinnati* (38, 8, p. 1437) Article
- J00-193 Damage Identification of Nonlinear Structural Systems.** Lai-Ah Wong and Jay-Chung Chen, *Hong Kong University of Science and Technology, Hong Kong* (38, 8, p. 1444) Article
- J00-194 Unconditionally Stable Time-Step-Integration Algorithms Based on Hamilton's Principle.** T. C. Fung, *Nanyang Technological University, Singapore* (38, 8, p. 1453) Article
- J00-195 Optimal Wing Planform Design for Aeroelastic Control.** Changho Nam, Aditi Chattopadhyay, *Arizona State University*; and Youdan Kim, *Seoul National University, Korea* (38, 8, p. 1465) Article
- J00-196 Methodology for Managing the Effect of Uncertainty in Simulation-Based Design.** Xiaoping Du and Wei Chen, *University of Illinois at Chicago* (38, 8, p. 1471) Article
- J00-197 Bilevel Integrated System Synthesis with Response Surfaces.** Srinivas Kodiyalam, *Lockheed Martin Space Systems Company*; and Jaroslaw Sobieszcanski-Sobieski, *NASA Langley Research Center* (38, 8, p. 1479) Article
- J00-198 Numerical Investigation into Multiple Vortex Structures Formed over Flat End-Cap Wings.** Deryl O. Snyder and Robert E. Spall, *Utah State University* (38, 8, p. 1486) Technical Note
- J00-199 Predictor-Corrector Approach for the Analysis of Sandwich Panels.** Jin Woo Park and Yong Hyup Kim, *Seoul National University, Korea* (38, 8, p. 1489) Technical Note
- J00-200 Test Time Increase by Delaying Driver Gas Contamination for Reflected Shock Tunnels.** Norikazu Sudani, *National Aerospace Laboratory, Japan*; Bahram Valiferdowsi, and Hans G. Hornung, *California Institute of Technology* (38, 9, p. 1497) Article based on AIAA Paper 98-2771
- J00-201 Modeling of Afterbody Flows with Realistic Propulsive Gases: A Prospective Study.** Richard Benay and Patrick Servel, *ONERA Meudon Center, France* (38, 9, p. 1504) Article
- J00-202 Response Surface Techniques for Diffuser Shape Optimization.** Jens I. Madsen, *Aalborg University, Denmark*; and Wei Shyy and Raphael T. Haftka, *University of Florida* (38, 9, p. 1512) Article based on AIAA Paper 97-1801
- J00-203 Damping Perturbation Method for Flutter Solution: The g-Method.** P. C. Chen, *ZONA Technology, Inc.* (38, 9, p. 1519) Article
- J00-204 Effects of Wall Admittance Changes on Aeroelastic Stability of Turbomachines.** Xiaofeng Sun and Shojiro Kaji, *University of Tokyo, Japan* (38, 9, p. 1525) Article
- J00-205 Nonlinear Response of Composite Panels Under Combined Acoustic Excitation and Aerodynamic Pressure.** K. Abdel-Motagaly, B. Duan, and C. Mei, *Old Dominion University* (38, 9, p. 1534) Article based on AIAA Paper 99-1380
- J00-206 Nonlinear Response of Airfoil Section with Control Surface Freeplay to Gust Loads.** Deman Tang, Denis Kholodar, and Earl H. Dowell, *Duke University* (38, 9, p. 1543) Article



- J00-207 Computational Aeroacoustic Analysis of Slat Trailing-Edge Flow.** Bart A. Singer, David P. Lockard, and Kenneth S. Brentner, *NASA Langley Research Center* (38, 9, p. 1558) Article
- J00-208 Discrete Vortex Simulation on the Acoustic Nonlinearity of an Orifice.** Xiaodong Jing and Xiaofeng Sun, *Beijing University of Aeronautics and Astronautics, PRC* (38, 9, p. 1565) Article
- J00-209 Effect of Plate Thickness on Impedance of Perforated Plates with Bias Flow.** Xiaodong Jing and Xiaofeng Sun, *Beijing University of Aeronautics and Astronautics, PRC* (38, 9, p. 1573) Article
- J00-210 Unsteady Leading-Edge Suction Effects on Rotor-Stator Interaction Noise.** Johan B. H. M. Schulten, *National Aerospace Laboratory NLR, The Netherlands* (38, 9, p. 1579) Article based on AIAA Paper 99-1951
- J00-211 Numerically Consistent Strong Conservation Grid Motion for Finite Difference Schemes.** R. Hixon, *NASA John H. Glenn Research Center at Lewis Field* (38, 9, p. 1586) Article
- J00-212 Implicit High-Order-Accurate-in-Space Algorithms for the Navier-Stokes Equations.** John A. Ekaterinaris, *Nielsen Engineering and Research, Inc.* (38, 9, p. 1594) Article
- J00-213 Numerical Solution of the Reduced Navier-Stokes Equations for Internal Incompressible Flows.** Martin Scholtysik, Bernhard Müller, and Torstein K. Fanneløp, *Swiss Federal Institute of Technology, Switzerland* (38, 9, p. 1603) Article
- J00-214 Influence of Nozzle Conditions and Discrete Forcing on Turbulent Planar Jets.** S. A. Stanley, *Lawrence Berkeley National Laboratory*; and S. Sarkar, *University of California* (38, 9, p. 1615) Article
- J00-215 Low-Diffusion Flux-Splitting Methods for Real Fluid Flows with Phase Transitions.** Jack R. Edwards and Randall K. Franklin, *North Carolina State University*; and Meng-Sing Liou, *NASA John H. Glenn Research Center at Lewis Field* (38, 9, p. 1624) Article based on AIAA Paper 99-3327
- J00-216 Eulerian Time-Domain Filtering for Spatial Large-Eddy Simulation.** C. David Pruett, *James Madison University* (38, 9, p. 1634) Article
- J00-217 Gross-Entrainment Behavior of Turbulent Jets Injected Obliquely into a Uniform Crossflow.** Donghee Han, V. Orozco, and M. G. Mungal, *Stanford University* (38, 9, p. 1643) Article
- J00-218 Modeling Dissipation Equation in Supersonic Turbulent Mixing Layers with High-Density Gradients.** Dominique Guézengar, *Centre National de la Recherche Scientifique, France*; Hervé Guillard, *Institut National de Recherche en Informatique et Automatique, France*; and Jean-Paul Dussauge, *Centre National de la Recherche Scientifique, France* (38, 9, p. 1650) Article
- J00-219 Motion in a Microgravity Environment.** John V. Shebalin, *NASA Johnson Space Center* (38, 9, p. 1656) Article based on AIAA Paper 99-0575
- J00-220 Optical Alignment Tolerances and Techniques for Particle Image Velocimetry.** T. Drouillard, P. McCarthy, and M. Linne, *Colorado School of Mines* (38, 9, p. 1659) Article
- J00-221 Coherent Anti-Stokes Raman Scattering Measurements and Computational Modeling of Nonequilibrium Flow.** F. Grisch, P. Bouchardy, V. Joly, and C. Marmignon, *ONERA, France*; and U. Koch and A. Gülhan, *DLR, German Aerospace Research Center, Germany* (38, 9, p. 1669) Article
- J00-222 Recent Advances in Detonation Techniques for High-Enthalpy Facilities.** Frank K. Lu and Donald R. Wilson, *University of Texas at Arlington*; and Robert J. Bakos and John I. Erdos, *GASL, Inc.* (38, 9, p. 1676) Article based on AIAA Paper 98-0550
- J00-223 Ionizing Nitrogen and Air Flows in a Superorbital Expansion Tube.** Timothy J. McIntyre, Alexis I. Bishop, and Ambelyn M. Thomas, *University of Queensland, Australia*; Akihiro Sasoh, *Tohoku University, Japan*; and Halina Rubinsztein-Dunlop, *University of Queensland, Australia* (38, 9, p. 1685) Article based on AIAA Paper 98-2772
- J00-224 Model Attitude Determination in Wind Tunnel with a Luminescent Paint Data System.** Wim Ruyten, *Sverdrup Technology, Inc.* (38, 9, p. 1692) Article based on AIAA Paper 99-0181
- J00-225 Review of Propulsion Applications of Detonation Waves.** K. Kailasanath, *U.S. Naval Research Laboratory* (38, 9, p. 1698) Article based on AIAA Paper 99-1067
- J00-226 Quantitative Effects of Projectile-Launch Tube Wall Friction on Ballistic Range Operation.** Akihiro Sasoh, Shinji Ohba, and Kazuyoshi Takayama, *Tohoku University, Japan* (38, 9, p. 1709) Article
- J00-227 Estimation of Layerwise Elastic Parameters of Stiffened Composite Plates.** S. Chakraborty and M. Mukhopadhyay, *Indian Institute of Technology, India* (38, 9, p. 1716) Article
- J00-228 Further Modification of Bolotin Method in Vibration Analysis of Rectangular Plates.** Pavel Pevzner, Tanchum Weller, and Avraham Berkovits, *Technion-Israel Institute of Technology, Israel* (38, 9, p. 1725) Article
- J00-229 Effects of Structural Damping and Stiffness on Impact Response of Layered Structure.** S. W. Gong and K. Y. Lam, *Institute of High Performance Computing, Singapore* (38, 9, p. 1730) Article
- J00-230 Improved Electrorheological-Fluid Variable Damper Designed for Semiactive Vibration Suppression.** Junjiro Onoda, Hyun-Ung Oh, and Kenji Minesugi, *Institute of Space and Astronautical Science, Japan* (38, 9, p. 1736) Article based on AIAA Paper 98-1920
- J00-231 Shape Design Sensitivity Analysis and Optimization of Elasto-Plasticity with Frictional Contact.** Nam H. Kim, Kyung K. Choi, and Jiun S. Chen, *University of Iowa* (38, 9, p. 1742) Article



**J00-232 Effect of Total Temperature on Boundary-Layer Stability at Mach 6.** Roger L. Kimmel and Jonathan Poggie, *U.S. Air Force Research Laboratory* (38, 9, p. 1754) Technical Note based on AIAA Paper 99-0816

**J00-233 Turbulence Closure Model Constraint Derived from Stress-Induced Secondary Flow.** T. Rung, H. Lübcke, and F. Thiele, *Technical University of Berlin, Germany*; and S. Fu, C. Wang, and Y. Guo, *Tsinghua University, PRC* (38, 9, p. 1756) Technical Note

**J00-234 Pressure-Sensitive Paint Measurements in Planar Transonic Nozzle Flow.** Johan Gullman-Strand, *Royal Institute of Technology, Sweden*; and Bruce F. Carroll, *University of Florida* (38, 9, p. 1758) Technical Note

**J00-235 Effects of Vibrational Relaxation on Bow Shock Standoff Distance for Nonequilibrium Flows.** A. F. P. Houwing and S. Nonaka, H. Mizuno, and K. Takayama, *Tohoku University, Japan* (38, 9, p. 1760) Technical Note

**J00-236 Centerline Vorticity Transport Within a Jet in Crossflow.** Václav Kolár, *Institute of Hydrodynamics, Czech Republic*; Eric Savory and Norman Toy, *University of Surrey, England, UK* (38, 9, p. 1763) Technical Note

**J00-237 Roughness and Turbulence Effects on the Surface Pressure over Yawed Cylinders.** A. Gatto, N. A. Ahmed, and R. D. Archer, *University of New South Wales, Australia* (38, 9, p. 1765) Technical Note

**J00-238 Probabilistic Approach for Integrated Structural Control Design.** Giovanni Mengali and Andrea Pieracci, *University of Pisa, Italy* (38, 9, p. 1767) Technical Note

**J00-239 Temperature Measurements in a Hypersonic Boundary Layer Using Planar Laser-Induced Fluorescence.** P. C. Palma, S. G. Mallinson, S. B. O'Byrne, and P. M. Danehy, *Australian National University, Australia*; and R. Hillier, *Imperial College of Science, Technology, and Medicine, England, U.K.* (38, 9, p. 1769) Technical Note

**J00-240 Coupled Helicopter Rotor/Flexible Fuselage Aeroelastic Model for Control of Structural Response.** Richard C. Cribbs, Peretz P. Friedmann, and Thiem Chiu, *University of California, Los Angeles* (38, 10, p. 1777) Article

**J00-241 Thermal Buckling of Axially Precompressed Cylindrical Shells Irradiated by Laser Beam.** Deng Keshun and Ji Zheng, *Dalian University of Technology, PRC*; and A. W. Davies and F. W. Williams, *Cardiff University, U.K., England, UK* (38, 10, p. 1789) Article

**J00-242 Subgrid-Scale Contribution to Noise Production in Decaying Isotropic Turbulence.** Christelle Seror and Pierre Sagaut, *ONERA, France*; and Christophe Bailly and Daniel Juvé, *École Centrale de Lyon, France* (38, 10, p. 1795) Article

**J00-243 Flow Properties of a Supersonic Turbulent Boundary Layer with Wall Roughness.** Robert M. Latin, *Air Force Institute of Technology*; and Rodney D. W. Bowersox, *University of Alabama* (38, 10, p. 1804) Article

**J00-244 Surface Pressure Fluctuations Beneath Two- and Three-Dimensional Turbulent Boundary Layers.** Michael C. Goody and Roger L. Simpson, *Virginia Polytechnic Institute and State University* (38, 10, p. 1822) Article based on AIAA Paper 99-0608

**J00-245 Effects of Pressure Gradients on Turbulent Boundary Layer Wave Number Frequency Spectra.** K. Cipolla and W. Keith, *U.S. Naval Undersea Warfare Center* (38, 10, p. 1832) Article

**J00-246 Parabolized Navier-Stokes Algorithm for Solving Supersonic Flows with Upstream Influences.** James H. Miller and John C. Tannehill, *Iowa State University*; and Scott L. Lawrence, *NASA Ames Research Center* (38, 10, p. 1837) Article

**J00-247 Factorized Implicit Upwind Methods Applied to Inviscid Flows at High Mach Number.** Lorenzo Mottura, Luigi Vigevaro, and Marco Zaccanti, *Politecnico di Milano, Italy* (38, 10, p. 1846) Article

**J00-248 Proper Orthogonal Decomposition Technique for Transonic Unsteady Aerodynamic Flows.** Kenneth C. Hall, Jeffrey P. Thomas, and Earl H. Dowell, *Duke University* (38, 10, p. 1853) Article based on AIAA Paper 99-0655

**J00-249 Jet Mixing Enhancement by High-Amplitude Fluidic Actuation.** Jonathan B. Freund, *University of California, Los Angeles*; and Parviz Moin, *Stanford University* (38, 10, p. 1863) Article

**J00-250 Experiments on Mach-Wave Interactions in a Compressible Shear Layer.** Michael J. Doty and Dennis K. McLaughlin, *Pennsylvania State University* (38, 10, p. 1871) Article based on AIAA Paper 99-2105

**J00-251 Supersonic Nonequilibrium Plasma Wind-Tunnel Measurements of Shock Modification and Flow Visualization.** R. Yano, V. Contini, E. Plönjes, P. Palm, S. Merriman, and S. Aithal, *Ohio State University* (38, 10, p. 1879) Article

**J00-252 Interference Effects During Burning of Tandem Porous Spheres in Mixed Convective Environment.** P. Balakrishnan, T. Sundarajan, and R. Natarajan, *Indian Institute of Technology, India*, (38, 10, p. 1889) Article

**J00-253 Effects of Combustion and Shock Impingement on Supersonic Film Cooling by Hydrogen.** Kenichi Takita and Goro Masuya, *Tohoku University, Japan*, (38, 10, p. 1899) Article based on AIAA Paper 99-2146

**J00-254 Shear Layer Flapping and Interface Convolution in a Separated Supersonic Flow.** C. J. Bourdon and J. C. Dutton, *University of Illinois at Urbana-Champaign* (38, 10, p. 1907) Article

**J00-255 Short-Scale Instabilities in Trailing Wake Vortices in a Stratified Fluid.** Donald P. Delisi and Robert E. Robins, *NorthWest Research Associates, Inc.* (38, 10, p. 1916) Article based on AIAA Paper 97-1784

**J00-256 Integrated Micro/Macro Approach for Laminate Composite Analysis: Applications to Turbine Blades.** Antonio F. Ávila, *Universidade Federal de Minas Gerais, Brazil, Brazil* (38, 10, p. 1924) Article



- J00-257 Collaborative Optimization Using Response Surface Estimation.** I. P. Sobieski and I. M. Kroo, *Stanford University* (38, 10, p. 1931) Article
- J00-258 Dynamic Responses of Smart Composites Using a Coupled Thermo-Piezoelectric-Mechanical Model.** Xu Zhou, Aditi Chattopadhyay, and Haozhong Gu, *Arizona State University* (38, 10, p. 1939) Article
- J00-259 Nonlinear Behavior of Thick Composites with Uniform Fiber Waviness.** Heoung-Jae Chun and Jai-Yoon Shin, *Yonsei University, Republic of Korea*; and Isaac M. Daniel, *Northwestern University* (38, 10, p. 1949) Article
- J00-260 Postbuckling Strength of Stiffened Composite Plates with Impact Damage.** Cheol-Won Kong, Chang-Sun Hong, and Chun-Gon Kim, *Korea Advanced Institute of Science and Technology, Republic of Korea* (38, 10, p. 1956) Article
- J00-261 Improved Simulated Annealing Search for Structural Optimization.** Jau-Sung Moh and Dar-Yun Chiang, *National Cheng-Kung University, Taiwan, ROC* (38, 10, p. 1965) Article
- J00-262 Structural Optimization Using Computational Aerodynamics.** Daniella E. Raveh and Yuval Levy and Moti Karpel, *Technion-Israel Institute of Technology, Israel* (38, 10, p. 1974) Article
- J00-263 Convergence Acceleration of an Inverse Design Technique for Constructing Turbomachinery Cascades.** Jeffrey W. Yokota and Adam J. Medd, *University of Alberta, Canada, Canada* (38, 10, p. 1983) Technical Note
- J00-264 Studies on Polygonal Slot Jets.** K. Srinivasan and E. Rathakrishnan, *Indian Institute of Technology, India* (38, 10, p. 1985) Technical Note based on AIAA Paper 2000-0613
- J00-265 Marching Distance Functions for Smooth Control of Hyperbolic Grids.** Gökhan Durmus and Mehmet Serif Kavsoglu, *Middle East Technical University, Turkey* (38, 10, p. 1987) Technical Note
- J00-266 Ignition Mechanisms of Jet-A Fuel Vapor in a Confined Environment.** Tae-Woo Lee, *Arizona State University* (38, 10, p. 1989) Technical Note
- J00-267 Ply Angle Optimization of Nonuniform Composite Beams Subject to Aeroelastic Constraints.** Thomas Evrard, Richard Butler, and Steven W. Hughes, *University of Bath, England, U.K.*; and J. Ranjan Banerjee, *City University, England, UK* (38, 10, p. 1992) Technical Note
- J00-268 Stability of Orthotropic Plates on a Kerr Foundation.** D. N. Paliwal and Siddharth K. Ghosh, *Motilal Nehru Regional Engineering College, India* (38, 10, p. 1994) Technical Note
- J00-269 Two-Color Planar Doppler Velocimetry.** Stephen A. Arnette, *University of Dayton*; Gregory S. Elliott and Andrew D. Mosedale, *Rutgers University*; and Campbell D. Carter, *U.S. Air Force Research Laboratory* (38, 11, p. 2001) Article
- J00-270 Euler-Based Inverse Method for Turbomachine Blades, Part 2: Three-Dimensional Flows.** T. Dang, S. Damle, and X. Qiu, *Syracuse University* (38, 11, p. 2007) Article
- J00-271 Global Artificial Boundary Conditions for Computation of External Flows with Jets.** Semyon Tsynkov, Saul Abarbanel, Jan Nordström, Victor Ryaben'kii, and Veer Vatsa, *NASA Langley Research Center* (38, 11, p. 2014) Article
- J00-272 Numerical Simulation of a Mach 1.92 Turbulent Jet and Its Sound Field.** J. B. Freund, *University of California, Los Angeles*; and S. K. Lele and P. Moin, *Stanford University* (38, 11, p. 2023) Article based on AIAA Paper 98-2291
- J00-273 Effects of Spatial Filtering on Sound Radiation from a Subsonic Axisymmetric Jet.** Wei Zhao, Steven H. Frankel, and Luc Mongeau, *Purdue University* (38, 11, p. 2032) Article
- J00-274 Generalized Characteristic Boundary Conditions for Computational Aeroacoustics.** Jae Wook Kim and Duck Joo Lee, *Korea Advanced Institute of Science and Technology, Korea* (38, 11, p. 2040) Article
- J00-275 Unsteady Flow Computations of a Slat with a Blunt Trailing Edge.** Mehdi R. Khorrami, Mert E. Berkman, and Meelan Choudhari, *High Technology Corporation* (38, 11, p. 2050) Article
- J00-276 Navier-Stokes Airfoil Computations with  $e^N$  Transition Prediction Including Transitional Flow Regions.** Hans W. Stock, *DLR, German Aerospace Research Center, Germany*; and Werner Haase, *DaimlerChrysler Aerospace, Germany* (38, 11, p. 2059) Article
- J00-277 Viscous Flow Analysis Using a Parallel Unstructured Multigrid Solver.** Dimitri J. Mavriplis, *NASA Langley Research Center* (38, 11, p. 2067) Article based on AIAA Paper 98-2619
- J00-278 Intergrid-Boundary Definition Method for Overset Unstructured Grid Approach.** Kazuhiro Nakahashi and Fumiya Togashi, *Tohoku University, Japan*; and Dmitri Sharov, *Scientific Applications International Corporation* (38, 11, p. 2077) Article based on AIAA Paper 99-3304
- J00-279 Computational Treatment of Source Terms in Two-Equation Turbulence Models.** B. Merci, *Universiteit Gent, Belgium*; J. Steelant, *ESA, The Netherlands*; and J. Vierendeels, K. Riemsdagh, and E. Dick, *Universiteit Gent, Belgium* (38, 11, p. 2085) Article based on AIAA Paper 99-3371
- J00-280 Accurate and Efficient Discretization of the Navier-Stokes Equations on Mixed Grids.** Andreas Haselbacher and Jiri Blazek, *ALSTOM Power, Ltd., Switzerland* (38, 11, p. 2094) Article
- J00-281 Padé-Type Higher-Order Boundary Filters for the Navier-Stokes Equations.** Datta V. Gaitonde and Miguel R. Visbal, *U.S. Air Force Research Laboratory* (38, 11, p. 2103) Article based on AIAA Paper 99-0557
- J00-282 Numerical Simulation of Shock-Enhanced Mixing in Nonuniform Density Turbulent Jets.** Shigeo Obata, *National Defense Academy, Japan*; and James C. Hermanson, *Worcester Polytechnic Institute* (38, 11, p. 2113) Article
- J00-283 Mean Flowfield Scaling of Supersonic Shock-Free Three-Dimensional Turbulent Boundary Layer.** W. Konrad, A. J. Smits, *Princeton University*; and D. Knight, *Rutgers University* (38, 11, p. 2120) Article



- J00-284 Engineering Design Optimization Using Interior-Point Algorithms.** S. S. Rao, *University of Miami*; and E. L. Mulkay, *Exxon Production Research Company* (38, 11, p. 2127) Article
- J00-285 Optimal Design of Uncertain Systems Under Stochastic Excitation.** Hector A. Jensen, *Federico Santa Maria University, Chile*; and Abdon E. Sepulveda, *Compañía Cerveceras Unidas, Chile* (38, 11, p. 2133) Article
- J00-286 Inherently Incomplete Finite Element Model and Its Effects on Model Updating.** Alex Berman, *Bloomfield, Connecticut* (38, 11, p. 2142) Article based on AIAA Paper 99-1450
- J00-287 Higher-Order Buckling of Debonded (Delaminated) Sandwich Panels with Soft Core.** Y. Frostig and V. Sokolinsky, *Technion-Israel Institute of Technology, Israel* (38, 11, p. 2147) Article
- J00-288 Postbuckling Analysis of Composite Laminated Panels.** D. J. Dawe, *University of Birmingham, England, U.K.*; and S. Wang, *Loughborough University, England, U.K.* (38, 11, p. 2160) Article
- J00-289 Boundary Correction Factors for Elliptical Surface Cracks Emanating from Countersunk Rivet Holes.** Anisur Rahman, *Drexel University*; and John G. Bakuckas, Jr., Catherine A. Bigelow, and Paul W. Tan, *Federal Aviation Administration William J. Hughes Technical Center* (38, 11, p. 2171) Article
- J00-290 Nonlinear Finite Element Analysis of Machining and Sheet Metal Forming.** V. Madhavan, V. A. Gandikota, and R. Agarwal, *Wichita State University* (38, 11, p. 2176) Article
- J00-291 Nonlinear Stress-Strain Model Accounting for Dissipation Anisotropies.** Marcus C. Johansson, Jens Knoell, and Dale B. Taulbee, *State University of New York at Buffalo* (38, 11, p. 2187) Technical Note
- J00-292 Direct Circulation Measurement of a Tip Vortex.** K. J. Desabrais and H. Johari, *Worcester Polytechnic Institute* (38, 11, p. 2189) Technical Note
- J00-293 Optimal Structural Control by Substructure Synthesis.** M. Sunar, *King Fahd University of Petroleum and Minerals, Saudi Arabia*; and S. S. Rao, *University of Miami* (38, 11, p. 2191) Technical Note
- J00-294 Fracture Mechanics of Mode Separation Based on Beam Theory.** R. K. Pandey, *General Electric Corporate R&D Center* (38, 11, p. 2194) Technical Note
- J00-295 Computation of Trailing-Edge Flow and Noise Using Large-Eddy Simulation.** Meng Wang and Parviz Moin, *Stanford University* (38, 12, p. 2201) Article
- J00-296 Numerical Simulation of Sound Generated by Vortex Pairing in a Mixing Layer.** Christophe Bogey, Christophe Bailly, and Daniel Juve, *École Centrale de Lyon, France* (38, 12, p. 2210) Article
- J00-297 Divergence-Free Bases and Multiresolution Methods for Reduced-Order Flow Modeling.** Jeonghwan Ko, *Texas A&M University*; Andrew J. Kurdila, *University of Florida*; and Othon K. Rediniotis, *Texas A&M University* (38, 12, p. 2219) Article
- J00-298 Adaptive QUICK-Based Scheme to Approximate Convective Transport.** K. B. Kuan and C. A. Lin, *National Tsing Hua University, Taiwan, ROC* (38, 12, p. 2233) Article
- J00-299 Fast, Block Lower-Upper Symmetric Gauss-Seidel Scheme For Arbitrary Grids.** R. F. Chen and Z. J. Wang, *CFD Research Corporation* (38, 12, p. 2238) Article based on AIAA Paper 99-0935
- J00-300 Unstructured Grid Arbitrarily Shaped Element Method For Fluid Flow Simulation.** Yong G. Lai, *University of Iowa* (38, 12, p. 2246) Article
- J00-301 High-Enthalpy Expansion Tube Experiments with Gas Injection.** Akihiro Sasoh, *Tohoku University, Japan*; Richard G. Morgan, Bradley N. Littleton, Timothy J. McIntyre, and Alexis I. Bishop, *University of Queensland, Australia* (38, 12, p. 2253) Article
- J00-302 Nonelectrical Tube Explosive Transfer System.** Lien C. Yang and Ian H. P. Do, *TRW Systems & Information Technology Group* (38, 12, p. 2260) Article based on AIAA Paper 99-2420
- J00-303 Numerical and Experimental Investigation of Double-Cone Shock Interactions.** M. J. Wright, K. Sinha, J. Olejniczak, and G. V. Chandler, *University of Minnesota*; and T. D. Magruder and A. J. Smits, *Princeton University* (38, 12, p. 2268) Article based on AIAA Paper 97-0063 & 99-0146
- J00-304 Simulation of Deployment Dynamics of Inflatable Structures.** Mokhtar Salama, C. P. Kuo, and Michael Lou, *Jet Propulsion Laboratory* (38, 12, p. 2277) Article based on AIAA Paper 99-1521
- J00-305 Vibration of Dynamic Systems Under Cyclostationary Excitations.** Akhilesh Jha and Efstratios Nikolaidis, *Virginia Polytechnic Institute and State University*; and Sathya Gangadharan, *Embry-Riddle Aeronautical University* (38, 12, p. 2284) Article
- J00-306 Shape Control of Beams by Piezoelectric Actuators.** Shengyuan Yang, Bryan Ngoi, *Nanyang Technical University, Republic of Singapore* (38, 12, p. 2292) Article
- J00-307 Micromechanics-Based Predictive Model for Compressively Loaded Angle-Ply Composite Laminates.** Jung Hyun Ahn and Anthony M. Waas, *University of Michigan* (38, 12, p. 2299) Article
- J00-308 Geometrically Nonlinear Shell Element for Hygrothermorheologically Simple Linear Viscoelastic Composites.** Daniel C. Hammerand and Rakesh K. Kapania, *Virginia Polytechnic Institute and State University* (38, 12, p. 2305) Article based on AIAA Paper 98-1764
- J00-309 Three-Dimensional Corotational Framework for Elasto-Plastic Analysis of Multi-Layered Composite Shells.** Arif Masud and Choon L. Tham, *University of Illinois at Chicago* (38, 12, p. 2320) Article
- J00-310 Structural Damage Detection and Identification Using Fuzzy Logic.** James P. Sawyer, *Pacific Plastic Technology, Inc.*; and S. S. Rao, *University of Miami* (38, 12, p. 2328) Article



**J00-311 Response Surface Approximations: Noise, Error Repair, and Modeling Errors.** Melih Papila and Raphael T. Haftka, *University of Florida* (38, 12, p. 2336) Article

**J00-312 Ultraviolet Radiation Modeling from High-Altitude Plumes and Comparison with Mir Data.** S. F. Gimelshein and D. A. Levin, *George Washington University*; J. A. Drakes, *Arnold Engineering Development Center*; G. F. Karabadzha, *TsNIIMASH, Russia*; and M. S. Ivanov, *Institute of Theoretical and Applied Mechanics, Russia* (38, 12, p. 2344) Article

**J00-313 Smoothing of the Multiple One-Dimensional Adaptive Grid Procedure.** Yih Nen Jeng, San-Yih Lin, and Zong-Shiaw Lee, *National Cheng-Kung University, Taiwan*, *ROC* (38, 12, p. 2353) Technical Note based on AIAA Paper 99-0303

**J00-314 Derivatives of Complex Eigenvectors Using Nelson's Method.** Michael I. Friswell, *University of Wales Swansea, England, UK*; and Sondipon Adhikari, *University of Cambridge, England, UK* (38, 12, p. 2355) Technical Note

**J00-315 Dispersion Relations in Piezoelectric Coupled Beams.** Q. Wang and S. T. Quek, *National University of Singapore, Republic of Singapore* (38, 12, p. 2357) Technical Note

**J00-316 Buckling and Postbuckling of Compressible Circular Rings Under Hydrostatic Pressure.** John V. Huddleston and M. V. Sivaselvan, *State University of New York at Buffalo* (38, 12, p. 2361) Technical Note

## Books Reviewed During 2000

**Liquid Cooling of Electronic Devices by Single-Phase Convection**, by Frank P. Incropera, *Wiley* (38, 2, p. 382); reviewed by David A. Zumbrennen.

**Hydrodynamic and Magnetohydrodynamic Turbulent Flows: Modelling and Statistical Theory**, by Akira Yoshizawa, *Kluwer Academic Publishers* (38, 3, p. 548); reviewed by Ugo Piomelli.

**Intermediate Finite Element Method, Fluid Flow and Heat Transfer**, by Juan C. Heinrich and Darrell W. Pepper, *Taylor & Francis, Inc.* (38, 3, p. 549); reviewed by J. Michael Barton.

**Singular Integrals in Boundary Element Methods**, edited by V. Sladek and J. Sladek, *Computational Mechanics, Inc.* (38, 4, p. 741); reviewed by Yijun Liu.

**Fundamentals of Fluid Mechanics**, edited by Joseph A. Schetz and Allen E. Fuhs, *Wiley* (38, 4, p. 743); reviewed by Dennis M. Bushnell.

**Structures Under Shock and Impact V**, edited by N. Jones, D. G. Talaslidis, C. A. Brebbia, and G. D. Manolis, *Computational Mechanics, Inc.* (38, 5, p. 940); reviewed David M. Jerome.

**Boundary Integral Equation Methods for Solids and Fluids**, by Marc Bonnet, *Wiley* (38, 5, p. 942); reviewed L. J. Gray.

**Stiffness and Damping in Mechanical Design**, by Eugene I. Rivin, *Marcel Dekker* (38, 6, p. 1108); reviewed by Daniel C. Kammer.

**Advances in Turbulence VI**, edited by Uriel Frisch, *Kluwer* (38, 6, p. 1109); reviewed by John L. Lumley.

**Parametric Sensitivity in Chemical Systems**, by A. Varma, M. Morbidelli, and H. Wu, *Cambridge University Press* (38, 7, p. 1302); reviewed by Sau-Hai Lam.

**IUTAM Symposium on Transformation Problems in Composite and Active Materials**, edited by Yehia A. Bahei-El-Din and George J. Dvorak, *Kluwer Academic Publishers* (38, 7, p. 1302); reviewed by A. Berman.

**Mechanics of Composite Materials and Structures**, edited by Carlos A. Mota Soares, Cristóvão M. Mota Soares, and Manuel J. M. Freitas, *Kluwer Academic Publishers* (38, 8, p. 1494); reviewed by Robert L. Sierakowski.

**Thermomechanics of Composites Under High Temperatures**, by Yu. I. Dimitrienko, *Kluwer Academic Publishers* (38, 8, p. 1495); reviewed by Robert L. Sierakowski.

**Ultrasonic Waves in Solid Media**, by Joseph L. Rose, *Cambridge University Press* (38, 9, p. 1773); reviewed by F. Farassat.

**Advanced Transport Phenomena**, by John C. Slattery, *Cambridge University Press* (38, 9 p. 1774); reviewed by Peter Bradshaw.

**Engineering Against Fatigue**, edited by J. H. Beynon, M. W. Brown, T. C. Lindley, R. A. Smith, and B. Tomkins, *A. A. Balkema Publishers* (38, 10, p. 1998); reviewed by John W. Lincoln.

**Engineering Turbulence Modeling and Experiments 4**, edited by W. Rodi and D. Laurence, *Elsevier* (38, 10, p. 1998); reviewed by T. J. Coakley.

**Simulation and Identification of Organized Structured in Flows**, edited by J. N. Sorensen, E. J. Hopfinger, and N. Aubry, *Kluwer* (38, 11, p. 2196); reviewed by Promode R. Bandyopadhyay.

**Discretization Methods in Structural Mechanics**, edited by H. A. and F. G. Rammerstorfer, *Kluwer* (38, 11, p. 2196); reviewed by Rakesh K. Kapania.

**High Speed Flow**, by C. J. Chapman, *Cambridge University Press* (38, 12, p. 2364); reviewed by G. S. Settles.

**Rarefied Gas Dynamics**, by Carlo Cercignani, *Cambridge University Press* (38, 12, p. 2364); reviewed by E. P. Muntz.



